



OLD GLORY FLIES PROUD — Our nation's flag is raised to half-staff in front of Bldg. 800 honoring those who lost their lives in the terrorist attacks last week. Silhouetted is Security Police Officer Buster Dial (7140). In an unprecedented modern show of patriotism, Americans across the country displayed flags from their homes and places of business. (Photo by Randy Montoya)

At a time of crisis, a message to all Sandians

Editor's Note: The Lab News invited Sandia President and Labs Director Paul Robinson to share his personal thoughts about the terrorist attacks on the World Trade Centers and the Pentagon with employees, retirees, and other Lab News readers. Here is what he wrote.

By C. Paul Robinson

It was nothing short of heart stopping on Tuesday morning, Sept. 11, with our eyes already glued to the TV, our minds wondering how it could have happened that a plane would collide with one of the World Trade Center towers. Suddenly it happened again. The next observation was so clear, so immediate, that it would allow our minds no time to summon any alternative explanation or doubt. We witnessed with unspeakable horror — watching on live television — as a large plane, immediately recognizable as a passenger jet, was intentionally flown directly into the second World Trade Tower, penetrating its middle with a huge explosion of flames.

Stark memories

For me the memories were particularly stark and painful. From late 1985 until early 1988, I sat in the southwest corner of the 93rd floor of Tower Two. Every day since the tragedy the faces flash through my mind of all the people who were likely there that morning — what has been their fate?

Our company, EBASCO (Electric Bond and Share Co., but today a division of Raytheon), had offices from the 77th floor through the 93rd floor, yet each floor seemed enormous. WTC II was an enchanting place. Elevators as big as your bedroom would whisk crowds of people from the ground level to the 78th floor "Sky Lobby" in less than a minute where we would transfer to one of many banks of regular-size elevators

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EOC staff respond to crisis with cool heads, well-rehearsed procedures, on-the-fly problem solving

"How can I help." Those four words, says Sandia Chief Financial Officer and Div. 10000 VP Frank Figueroa, captured the spirit that prevailed in Sandia's Emergency Operations Center (EOC) in the hours and days following the deadly terrorist attack on the US on Sept. 11.

"There's a standard emergency response process that the Labs follows," he says. "It's well documented, but it's dynamic. In an environment like that [the immediate post-attack period], there's a lot of solving problems on the fly."

An urgent page

Frank, one of several VPs who served in the EOC during the crisis following the attack, recalls the can-do, get-the-job-done attitude that has been a hallmark of Sandia's emergency response personnel for more than 50 years (see sidebar: "Coming through in a pinch . . ." on page 4).

As the scope of the attack took hold, Sandia



PROTECTIVE FORCE Dept. 7140 Manager Frank Alton fields an urgent call in EOC headquarters. (Photo by Randy Montoya)

management determined that staffing of the EOC was called for, both in New Mexico and California. Frank, who was at an off-site breakfast meeting with Sandia suppliers, received an urgent page and subsequently hurried back to the Labs. Terry Lovato of 7101 was already on station acting as Sandia's Emergency Director. Subsequently, Div.

14000 VP Lenny Martinez assumed the Emergency Director role and Terry served as deputy.

In the first stages of the EOC staffing, Frank

(Continued on page 5)

Rep. Tauscher speaks at Sandia/California 3

New groundwater sensor sniffs toxins 6

This & That

Emergency – This issue of the *Lab News*, like virtually everything else in America, has been affected by the horrible events of Sept. 11. It is a truncated issue, made necessary by the security concerns that sent most Sandians – including *Lab News* staff members – home at midday that day and allowed them to return only on Sept. 13.

Other key *Lab News* contributors – including Larry Perrine, who usually writes this column – were kept busy extra-long hours at Sandia working with our Emergency Operations Center and keeping Sandians and others informed about developments. Some of them came in at 4 a.m. and worked until 8 p.m. The EOC itself was operated round the clock. Nearly 70 Sandians worked there during the first two days alone. (See Bill Murphy's story beginning on page 1. Bill's story focuses on the Sandia/Albuquerque EOC, but the Sandia/California EOC was also operated, with equal dedication.) Other related news and photos are on pages 3, 4, 5, and 8.

* * *

Infamy – The images will stay with us forever – the two hijacked airliners slicing into the World Trade Center towers, the twin 110-story New York City buildings collapsing on themselves, a section of the Pentagon severely damaged from impact of a third hijacked airliner. A fourth failed to get to its target in Washington – perhaps the White House or Air Force One – apparently because heroic passengers battled the hijackers and caused it to crash in southern Pennsylvania. The images of brave rescuers and grieving loved ones. Thousands of innocent people dead.

Sandians share the revulsion of people everywhere at the terrorists' acts. We take pride in work intended to defend this nation and to advance the causes of peace. Our mission, after all, is national security in the broadest sense. Throughout the Labs, our people work on a whole array of technologies and have deep expertise that will undoubtedly be called upon to aid in the efforts to come.

For years Sandia's leaders have tried to emphasize that it is still a dangerous world, with dedicated enemies of freedom. It is terrible that this has suddenly been so tragically demonstrated. For now, the emotions we feel – shock, disbelief, horror, grief, anger, sadness – are much the same as those of our fellow Americans and friends throughout the world. Next, the nation and its allies must channel those emotions into wise and effective action.

We invited Sandia President Paul Robinson to share his thoughts with employees, retirees, and others who receive the *Lab News*. After his service as head of the weapons program at Los Alamos and before joining Sandia in 1990 Paul worked for three years on the 93rd floor of World Trade Center Tower Two. His extraordinary personal statement begins on page one.

– Ken Frazier, Editor, 844-6210, kcfrazi@sandia.gov

Integrated Safeguards & Security Management approach rolled out

"Sandia's highest goal," says Sandia President C. Paul Robinson, "is to be the laboratory that our country turns to first for technology solutions to the most challenging problems that threaten the peace and freedom of our nation and the globe." In striving toward that goal, it is not enough to deliver exceptional products and services; Sandia's mission work must be carried out safely and securely.

The Integrated Safety Management System (ISMS) that Sandia adopted several years ago has proven effective, Paul says, so much so that what was learned in the safety arena is now being tied to security in an implementation called Integrated Safeguards and Security Management (ISSM).

ISSM is designed to empower individuals to be aware of and responsible for the security and the safety of their own operations. The management of security and safety rests on the quality principle that states that highest quality is achieved by building quality "in" rather than depending on inspecting "out" the defects.

ISSM is designed to empower individuals to be aware of and responsible for the security and the safety of their own operations.

By extending the previous integrated safety approach to security issues, Sandia seeks to ensure that employees and contractors 1) are aware of what needs to be protected in the workplace (and why) and that they plan and perform work accordingly, 2) ask questions and obtain answers about security issues, 3) participate in development of requirements and effective implementation, and 4) give their own ideas for how security might be improved.

Paul says he is pleased that this view has won acceptance within the new National Nuclear Security Administration (NNSA). Sandia is now participating in an action plan for an NNSA-wide rollout of ISSM. Each of Sandia's security-related roles and responsibilities is clarified in a document on the internal web at: <http://www-irm.sandia.gov/iss/CPR400.3.8/cpr400.3.8.htm>. Also, the Line Integration Working Group (LIWG), with representatives from every division, has sponsored development of a Security Oversight and Requirements Review Team, and a security web portal <http://www-irm.sandia.gov/iss/portal> to develop, streamline, and communicate Sandia's security business rules. Over the next several months, you'll see various communications that show how ISSM is being applied at Sandia.

Says Paul, "Your continued personal involvement and strong support of Sandia's efforts to effectively integrate both safety and security into our mission work are essential if we are to reach our highest goal."

For the record

A Feedback answer supplied to and published in the Sept. 7 *Lab News* wasn't totally correct. The question, regarding rude window stickers on contractor vehicles, appeared on page 8. The answer to that question should have deleted (in the second paragraph) the phrase "or contact the contractor's management with details." The last sentence should have read: "In addition to contacting your management, you may also contact the Procurement and Logistics Center, the Sandia Contracting Representative, the Ethics and Business Conduct Office, or the EEO/AA and Diversity Department for assistance."

* * *

We gave the correct acronym but an incorrect name for one of the new Sandia buildings prominent in the new aerial photo of Area 1 on the back page of the Sept. 7 issue. PETL, the building's acronym, stands for Processing and Environmental Technology Laboratory.

Sandia LabNews

Sandia National Laboratories

<http://www.sandia.gov/LabNews>

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Tonopah, Nevada • Nevada Test Site • Amarillo, Texas •
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Retiree deaths

Edith E. Blum (age 94)July 26
Donald J. Coleman (84).....Aug. 4
Leslie L. Cole (87).....Aug. 6
Lloyd J. Merrell (70).....Aug. 13
Joseph E. Taylor (83).....Aug. 16
Peter A. Peshlakai (85)Aug. 19
Hugh H. Howe (87).....Aug. 24
Charles E. Wimmer (71)Aug. 25
Ernest L. Manning (86).....Aug. 29
Douglas W. Ballard (78).....Aug. 29
Jean J. Sherlin (87)Aug. 31

Sympathy

To Esther Hernandez (2300) on the death of her mother-in-law, Alicia Hernandez, in Las Cruces, Aug. 28, and the death of her sister, Rose Soder, in Albuquerque, Sept. 4.

Take Note

Retiring and not seen in *Lab News* pictures: Frank Baca (7845), 22 years; Cecelia Gutierrez (2911), 20 years; Martin Kodlick (5832), 35 years; Mary Lockwood (10502), 11 years; and Dolores Parra (7863), 31 years.



Shock, grief, anger, sympathy, resolve: Four statements

Here are excerpts from statements issued last week and this week to employees of DOE/NNSA and Lockheed Martin:

Spencer Abraham, Secretary of Energy

We are all deeply saddened by today's tragic and horrific events.

I want to thank and commend the DOE personnel, especially the Emergency Operations staff, who remained on the job to coordinate the Department's response and implement contingency plans during this difficult time.

I want to offer my condolences to any DOE staff who may have suffered the loss of a loved one or friend in today's terrible events. I join all Americans in praying for the victims and their families.

Gen. John Gordon, Administrator, National Nuclear Security Administration

Like each of you, I am in a state of shock, grief, and anger over the terrorist attacks. With thousands of casualties, many of us have been touched in a very personal way by these horrific events. As President Bush told us, "America has stood down enemies before, and we will do so this time." In this light, our mission at NNSA, which in many

ways is to make the world a safer place, takes on an even greater importance.

Please continue to do your job proudly and with determination. We in the NNSA are an extended family and will be there for those in need. I offer my deepest sympathy and prayers to the victims and families of those whose lives have been changed forever by these unprecedented attacks on the United States.

Vance Coffman, CEO, Lockheed Martin

We extend our thoughts, our hearts, and our prayers to the families of fellow citizens who have lost their lives or suffered injuries in these horrible acts of violence. It may take a long time for the magnitude of the tragedy to sink in. We place our full faith and support in the president and our democracy to meet this challenge with the same fortitude and sense of purpose that have guided us throughout our history.

I sincerely want to thank each of you for your continuing support to our nation, our customers, and fellow employees. Now more than ever, our country needs our unwavering commitment. A special thanks to all those entrusted with our safety and security; your fellow employees appreciate your calm and resolute dedication to duty.

Once again, thank you for your dedication and

support. I have full confidence that we will be true to our American spirit and show our strong resolve to serve this nation in meeting the challenges ahead.

Mike Camardo, Executive Vice President, Lockheed Martin Technology Services

As we begin the recovery and healing, I ask that each of you continue doing your job with determination and commitment. I am very proud of all of you, and the work we do in support of our government and her allies. What we do on a daily basis moves this country forward, and in these times, this focus on the future is more important than ever.

It is also with immense pride that I commend the Technology Services employees at ground zero in both New York and Washington who are working tirelessly to support our customers, the government, and the rescue teams.

I offer my deepest sympathy and prayers to victims and families of those whose lives have been changed forever by these unprecedented attacks on the United States.

Let us answer with a firm recommitment to the vision of our founding: that we are and will be one nation, indivisible. United, we will continue to stand strong.

Rep. Ellen Tauscher speaks at Sandia/California

She discusses nonproliferation, NNSA, tax cuts, economy, treaties, transit, energy crisis, China

By Nancy Garcia

Saying it's good to be home, Rep. Ellen Tauscher visited Sandia/California during her August recess for a community dialogue. Tauscher represents Livermore and the 10th congressional district.

About 60 people attended her talk, including news media and several Lawrence Livermore employees.

"We're glad to have someone who loves us so much," said 8000 VP Mim John in her introduction, "and it couldn't be more important in these turbulent times."

Tauscher said she expects the defense authorization bill to reach a compromise between House and Senate versions, hoping that nonproliferation funds would increase by up to \$57 million.

Voicing displeasure with proposed cuts in nonproliferation, she said, "The theology of national missile defense is hard to sustain with the broad bandwidth of threats that are very much part of the post-post-Cold War era. I'm a big supporter of theater and wide-area naval defense in the case of SCUD or ICBM launch . . . a national missile defense can only handle a handful of weapons, so it's smart to make sure there are not hundreds out there." The threat needs to be "corralled," she said, through continued efforts in non-

barded with information that confuses them."

She favors ensuring a safety net by not dipping into Social Security funds or changing Medicare, and sees a need to also provide prescription drug benefits.

To stimulate the economy, she voted for tax cuts — the only Bay Area Democrat to do so. However, she would have preferred a smaller cut and a shorter time frame, saying she felt it was "too great in the out years — we can't predict the economy for the next 10 years, but every year in Washington we do it and every time, we're wrong."

Tauscher felt the fifth year of a tax cut could be a "trap door" adding to an economic confidence problem; that three years are more predictable and in the fourth year the next phase of tax cut should be stopped if the deficit is not being paid down.

The 1980s saw 10 years of spending, she said — a "party" with nothing to show for it in the long run — followed by seven years of effort to win back a fiscally responsible reputation through the 1997 balanced budget amendment.

Locally, she supports federal studies and related assistance aimed at rapid transit in the Tri-Valley and east of Antioch. Now that Californians have weathered the energy crisis, she added that her next regional worry is water — especially in the more bountifully supplied North — ranging from conservation and quality issues to storage and allocation.

They're coming to California

"There are another 15 million people coming to California," she said, "and they're all going to be looking for water."

Tauscher called the energy crisis "the largest transfer of wealth from one state to another since the end of the Civil War," saying, "it wasn't that there wasn't any power, it was that we couldn't afford what was being offered," and thankfully the state has been blessed by mild weather.

Although the state's economy is the sixth largest in the world, she said its stature can work against it. "California is a place people are very jealous of — they think we have it all, we have enough — and people will take advantage of you."

Nonetheless, she said her 10-year-old daughter



SPEAKING TO EMPLOYEES during an August visit to Sandia/California, well before the terrorist attacks on New York and Washington, Rep. Ellen Tauscher discusses the work ahead for Congress.

Katherine ("my most important constituent"), who tagged along on her visit, likes being a Californian and is looking forward to going to school in California some day.

One listener mentioned that funding for on-site inspections through the Comprehensive Test Ban Treaty was cut — which the Congresswoman said was part of a shift toward the national missile defense and away from treaty regimes. Tauscher lauded treaties as a mature and responsible way for sovereign nations to manage their interactions, saying that the administration has chosen to not honor the Kyoto treaty and four others in the last seven months.

Your worst suspicions

"That says to our allies and adversaries, 'Your worst suspicions about us may be true,' " she warned.

A researcher from the Combustion Research Facility noted that DOE's Office of Transportation Technology is also cutting R&D funding.

"No one can empirically prove our R&D money has been wasted," Tauscher responded. "We should have more and more."

In response to a Chinese-American employee from LLNL who said he hopes the honeymoon with John Gordon, the administrator of the new National Nuclear Security Administration, lasts, she said that circumstances that led to creation of the NNSA have hurt retention and recruitment at the labs, as well as the sense of pride.

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proliferation, including country-to-country and scientist-to-scientist initiatives; intelligence, security, and homeland defense activities.

A third-term Congresswoman, she is the ranking Democrat on the House Armed Services panel that oversees the National Nuclear Security Administration and takes pride in having helped to establish the NNSA along with Rep. Mac Thornberry, a Texas Republican who heads the panel.

Confusion and no sense of ease

On the financial side, she would like to stimulate the economy and boost confidence, saying that the slowing economy over the past year reflects a paradigm shift. "Everything's different — we have globalization, and productivity is still high, but there's a trade deficit . . . We still don't have a sense of ease; the American public is bom-

Paul Robinson

(Continued from page 1)

(“locals”) that served seven particular floors, as well as the 78th. The concept of sky lobbies and local elevators was an award-winning breakthrough in design for skyscrapers. Without that idea it would have been impossible to have an economic real estate proposition in buildings that tall (110 stories above ground), since almost all of the interior space would have been taken up by elevators. Similarly, without that concept, no one would have wanted to work in the upper reaches because the elevator rides would have been endless.

A cachet all its own

Residing in the twin towers had a cachet all its own. Businessmen and women from all over the world identified immediately with the World Trade Center. They knew where you worked, and they all were anxious to visit you. The view was spectacular! Small aircraft constantly flew by, lower than my windows. You could see everything from there — most impressively, the Statue of Liberty out in the water off the Jersey shore. It was always extremely quiet up there. During the Fourth of July celebration coinciding with the 100th anniversary of the Statue of Liberty, my family spent the day with me on the 93rd floor, and, as she looked down toward Battery Park, my daughter asked, “Why do they have the gravel in all of those colors?” I enjoyed taunting her: “Watch carefully and you’ll see the ‘gravel’ moving.” “The gravel” was people, viewed from so high up, packed ever so closely all around the building as they waited for the tall ships and the fireworks display.

The distinction and the enchantment are no more. Who could have predicted that it would have ended like this? My staff (in the Advanced Technology Sector) performed a study, while I was there, to estimate the lifetime of the building. The strength of the building was the stainless steel “cage” that formed the outer superstructure of the building. Once you were above the lower floors, all the windows were exactly the same size, set to fill the space between the welded stainless steel girders that stretched all the way from top to bottom. Interestingly, we concluded that the lifetime would be limited by the corresponding lifetime of the cofferdam at the base to keep the foundation dry. To remain stable against the wind loads, the base rocks had been transported from far out on Long Island to get the right strength and dryness. Were the supporting base to be flooded, the torques created by the winds would cause the building to be toppled.

No comprehending the loss

Some wondered whether it might meet its end by a different catastrophe — destruction by a nuclear explosion. The World Trade Towers enjoyed the reputation as the Number One Threat Site for phoned-in threats of “Improvised Nuclear Devices.” As a result, your NEST team colleagues (Nuclear Emergency Search Team) all too often learned more about the building than they ever wanted to know. Each case was a false alarm. But how strange that these two great buildings — truly icons of America’s technology, ingenuity, and riches — would be brought down by a handful of terrorists, beginning their destruction by boarding airplanes carrying only small pocket knives and box-cutters.

Now the towers are gone, and with them, many thousands of lives also taken from us as well. It pains me to write the terms “many thousands.” How can anyone comprehend the depth and breadth of even one of those lives — the loved one of spouses, families, and friends, with myriad aspirations and hopes — suddenly gone.

Within minutes of the gruesome and tragic attacks in New York an identical tactic ripped a giant wound into the side of the Pentagon in our nation’s capital. The web of life is so strange. Five weeks earlier, I had met in a windowless conference room in the portion of the building now gone. The same “flood of faces flashing before my eyes” takes place for those



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who occupied those spaces as well. Did any of them make it out? Could it be, hope beyond hope, that some had gone to meetings elsewhere? One man in particular had a child with a dangerous heart condition. Is he still alive to care for that son?

Who will rise?

But when we lie down at night and try to collect our thoughts, who can ever prevent the imaginings from flooding our minds of what it must have been like for those doomed passengers on each of those commercial flights. Here, too, the



similarities are all too stark. My life has been a series of early morning flights, still feeling a bit groggy as you find your seat on the aircraft. What must it have been like, to be so rudely awakened by the fear of a hijacking and its uncertainties — a fear that lasted right up to those terrifying final instants of their lives as the horrendous truth registered in their minds.

And with all of the deaths — in Washington, in New York, and with those who perished in the airplane that took a sharp plunge to the ground outside Pittsburgh — our nation faces a great crisis.

Who will now rise to avenge their deaths? Who will create the means of preventing or blunting such attacks in the future? Who will devise the new means of protecting our air travel systems and restoring our “open and trusting” ways of life? Who will design the buildings of the future to still be just as beautiful as those we lost, but prove even more protective of the lives inside? Further, who will step forward to “wage peace” by grappling with the fundamental problems that divide mankind and succeed in securing a lasting peace with freedom for all? These tasks are not ours alone, but they indeed are our challenges, just as surely as there is any truth in our belief that science and engineering have an enormous power to make the world a better place. This week the trumpet has sounded the call for “exceptional service” louder than at any time in our lives. Let us answer the call.

“This week the trumpet has sounded the call for “exceptional service” louder than at any time in our lives. Let us answer the call.”

Coming through in a pinch: EOC crisis staffing

Under normal circumstances, if emergencies can ever be considered “normal,” Sandia Facilities VP Lynn Jones would be the emergency director in the EOC. Lynn, however, was on travel, unable to return to New Mexico. In her absence, several VPs, directors, and managers — Lennie Martinez (Div. 14000 VP), Frank Figueroa (Div. 10000 VP), Don Blanton (Div. 3000 VP), Executive Staff Director Les Shephard, Terry Lovato (7101), Al West (7100), and Dave Corbett (7800) — pitched in.

Les offered effusive praise for the commitment of the EOC personnel.

“‘Exceptional service’ took on a new meaning for me last week,” Les says. “Sandians in the EOC and our security force went above and beyond the call of duty to do whatever had to be done to make sure that our facilities and our people were safe and secure.” Les also praised the “important and significant partnership” Sandia has maintained throughout the crisis with Kirtland Air Force Base security forces.

Following is a list of Sandia staff who logged in at the EOC during the first two days of the emergency. The EOC was staffed 24 hours day Sept. 11-16.

Chris Aas, T. J. Allard, Frank Alton, David Anglen, Melecita Archuleta, Carolyn Armijo, Inez Atencio, Gary Baldonado, Bruce Berry, Don Blanton, John Borzek, Michelle Bruns, Angelo Campos, Don Carson, Dennis Cavalier, Ed Cazzola, Susan Chavez, Larry Clevenger, George Conner, Dave Corbett, Matt Custer, Mike Du Mond, Bradley Eichorst, Frank Figueroa, Melanie Flores, Judy Follis, Marvin Garcia, John German, Camille Gibson, Steve Heaphy, Heidi Herrera, Emma Johnson, Janice Johnston, Mary Klein, Michael Knazovich, H. R. Kubasek, George Lasker, W. C. Layne, Jo Loftis, Terri Lovato, Lenny Martinez, Chris Miller, Tami Moore, Chris Mullaney, Pat O’Guin, Hans Oldewage, William Ortiz, Claude Potter, Anita Reiser, C. Paul Robinson, Cynthia Romancito, Dionne Sanchez, Maurice Sandoval, Kay Sanderville, Gary Schmidtke, A. T. Schwyzer, John Sensi, Les Shephard, Ron Simonton, Rebecca Statler, Reggie Tibbetts, Pace VanDevender, Johnny Vaughan, Al West, Joan Woodard, Paul Yourick, and Mike Zamorski, with considerable support from the staff of the Thunderbird Café!



STANDING WATCH — EOC staff and support personnel kept the EOC basement facility staffed 24 hours a day during the first week after the terror attack on the US East Coast. (Photo by Randy Montoya)

EOC

(Continued from page 1)

says, “we went through the normal checklists,” procedures that are well-rehearsed through frequent drills and dry-runs.

The first requirement was to secure the site and “make sure our defenses were commensurate with the threat,” Frank says. There was never an explicit threat directed at Sandia or other DOE or base facilities, but EOC planners couldn’t know that in the “fog of war” that characterizes sneak attacks.

A great partnership

Frank notes that in the immediate wake of the attack, Kirtland Air Force Base activated its battle staff, a military equivalent to the EOC. As a key base tenant, Sandia has a liaison to that group. Sandia also maintains close contact with other local EOCs through DOE’s Kirtland Area Office Emergency Team. “They are right there beside us. It’s a great partnership,” he says. “We [KAFB, DOE, Sandia, and the City] made connection so that we all knew what we were doing, so that we were all on the same page.”

After the initial stages of securing the facility, Frank says, “We were very concerned to understand the state of a number of Sandians who actually work at the Pentagon, target of one of the terror attacks. “With communications being so difficult [right after the attacks] it took some time to verify, but ultimately we were able to determine that all our folks were okay.”

At the same time, the EOC staff grappled with a perhaps even thornier challenge: “How do we

get a handle on all our travelers? We started a massive phone campaign to contact everyone who was traveling that day. (See sidebar, “Travel office staff assures Sandians’ safety on the road,” this page.)

After securing the site and launching efforts to verify the safety of off-site Sandians, Frank says, the next issue was what to do about on-site staff.

“Obviously we didn’t know what the terrorists’ intentions were, and there were plenty of potential targets they could be interested in, including military facilities. Consistent with NNSA direction and Kirtland Air Force Base’s force protection levels, we decided that the prudent course would be to get nonessential staff off site as soon as possible.” That’s when the call was made to send people home beginning at about 10 a.m. on Sept. 11.

Other issues: the Microelectronics Development Laboratory, the Neutron Generator facility, and numerous other labs and facilities had to be brought down in such a way that they could be reactivated with as little disruption of work as possible.

While the California site was able to reopen on Sept. 12, the New Mexico site remained closed an additional day while the Air Force implemented new security measures. In the meantime, Frank says, the Labs’ security staff “did yeoman’s work,” the steam plant folks kept things up and running, and the EOC staff worked on a round-the-clock schedule.

For the immediate future, Frank, a former Air Force officer, sees little likelihood that Kirtland will relax its Force Protection Condition Charlie security posture. “We are just going to have to abide by that and do the best we can,” he says.

Travel office staff assures Sandians’ safety on the road

It was almost immediately obvious that the World Trade Center and Pentagon attacks, along with an apparently foiled attack that ended with a plane crash in Pennsylvania, were part of a coordinated terrorist assault on the US, using the airways as a delivery system for destruction.

It was thus instantly apparent that the 400 or so Sandians on travel could be in imminent danger. The good news: after an exhaustive effort it was determined that apparently no Sandia employees were injured or in immediate danger during the attack.

That was by no means certain at the outset.

Following the activation of the Emergency Operations Center, one of the first orders of business was to determine the status of traveling Sandians.

Camille Gibson, manager of the Labs travel office, and members of her staff, along with other folks from Center 10500, immediately established a sort of triage approach to the task: First, identify Sandians traveling or lodging on the East Coast where the attacks seemed to be concentrated — Washington, New York, Boston, and Pittsburgh. Next, identify any other Sandians actually en route by air on Sept. 11. Third, identify Sandians on travel in foreign countries.

Camille calls the task of tracking down employees “monumental.” Problems complicating the task: Some Sandians may have changed travel plans and taken a different flight than they had been scheduled to take. Some may have had travel scheduled but decided for whatever reason not to go. Sorting out all the possibilities wasn’t straightforward.

In addition to checking travel records, “we called department managers, secretaries, program managers, home numbers, contact numbers.” We called hotels. We left e-mail and voice mail messages.”

“People were very good at getting back to us,” Camille says. “It was a great effort.”

Executive Staff Director Les Shephard says the experience of trying to track down traveling Sandians offered a vital “lesson learned.” In the future, he says, it is essential that Sandians leave behind clear and specific contact information.

Kirtland quiet on ‘day after’

The day after Tuesday’s terrorist attacks on New York and Washington, Kirtland was so quiet you could hear pigeons fluttering off the fire station at the usually busy — but not that day — intersection of Wyoming and F Street. Orange barrels and yellow barricade tape accented base headquarters and other buildings. No bustle of people — just silence.

Flags fluttered at half-staff and though children were home from school on a bright, sunny Sept. 12, few — if any — were playing outside. A lone truck sat in the BX parking lot.

Instead of his normal job dispensing prescriptions, Airman 1st Class Syed Zaidi of the 377th Medical Group checked IDs at the satellite pharmacy. “It’s depressing, shocking,” he said. “I couldn’t sleep, thinking of all those innocent people. I normally don’t watch the news, but I got up at five this morning and watched some more news. I just couldn’t get enough.”

Staff Sgt. Brady McCoy of the 377th Security Forces said, “One thing that is unusual is the quietness on the base.” He, Senior Airmen Jeremie Ritchie and Patrick Benoit, and Airman 1st Class Jonathan Scalise were in a Humvee, guarding the Gibson-Pennsylvania intersection.

Where traffic entered the base at Gibson and Louisiana until the gate was moved eastward a few months ago, Senior Airman Thomas Echelmeyer inspected random vehicles prior to their being allowed to wend through barricades and past the actual guard post. “Most people are really helpful,” he said. “They’re thankful we’re protecting them. I just got back from Kuwait, so I’ve been in this state of readiness for a while.” And then, after a pause: “But this is on our home front and not foreign soil. To a certain degree I feel my safety has



INSPECTING EVERYTHING THAT MOVES — On Tuesday, Sept. 11, every vehicle that entered Kirtland Air Force Base was subjected to the most rigorous search. Here, airmen inspect a vehicle at the Wyoming gate. (Photo by Randy Montoya)

been invaded, but I know as a nation we’ll pull together.”

— Dennis Schaefer
KAFB Public Information Office

Real-time soil and groundwater chemical sensor may become electronic 'sniffer' of the future

Device consists of miniature sensor array packaged in a weatherproof housing

By Chris Burroughs

A Sandia-developed real-time gas- and water-quality monitoring system that consists of a miniature sensor array packaged in a weatherproof housing may become the underwater and underground electronic "sniffer" of the future.

"It's a unique monitor that can be put directly underground — in groundwater or soils where the humidity reaches nearly 100 percent — and detect toxic chemicals at the site [*in-situ*] without taking samples to the lab," says Cliff Ho (6115), researcher working on the project. "It will be able to monitor sites containing toxic chemical spills, leaking underground storage tanks, and chemical waste dumps — all in real time, potentially saving millions of dollars a year in the process."

Traditional monitoring methods for sites that may be contaminated with toxic chemicals usually involve physically collecting water, gas, or soil specimens at the location and taking them to a laboratory for analysis. Such off-site analysis can become extremely expensive, with each sample analysis costing between \$100 to \$1,000. In addition, the integrity of off-site analysis can be compromised during sample collection, transport, and storage so that what scientists are analyzing may not be the same as what's at the site.

The monitoring system developed by Cliff and fellow principal investigator Bob Hughes (1744) is designed to be left at the site. It would send back information in real time on solvents present and their concentrations to a data collection station where the information would be downloaded and analyzed. Telemetry methods can also be employed to transmit the data wirelessly from remote stations to a computer that would upload the information to an interactive web site, providing immediate access to authorized individuals anywhere in the country.

Chemiresistor

The heart of the device is an array of differing miniature sensors that can detect volatile organic compounds (VOCs). Called a chemiresistor, each polymer-absorption sensor is fabricated by mixing a commercial polymer dissolved in a solvent with conductive carbon particles. The ink-like fluid is deposited and dried on wire-like electrodes on a specially designed microfabricated circuit. When VOCs are present, the chemicals absorb into the polymers, causing them to swell. The swelling changes the electrical resistance that can then be

measured and recorded. The amount of swelling corresponds to the concentration of the chemical vapor in contact with the polymers.

A reversible process, the polymers will shrink once the chemical is removed, reverting the resistance to its original state.

"By using four different kinds of polymers — one for each sensor — we think we can detect all solvents of interest," says Bob, who developed the sensors for the project.

The array of differing sensors can be used to identify different VOCs by comparing the resulting chemical signatures with those of known samples. So far, the chemiresistor array has been shown to detect a variety of VOCs, including aromatic hydrocarbons like benzene, toluene, and xylenes; chlorinated solvents like trichloroethylene (TCE); and aliphatic hydrocarbons like hexane and iso-octane — all compounds that are the primary contaminants at many commercial and DOE sites.

In addition to a miniature temperature sensor and heater that are already part of the chemiresistor chip, future designs of the same microfabricated circuit containing the chemiresistor array will also include a preconcentrator to increase the sensitivity and detection limits of the sensor.

The temperature sensor will monitor the temperature, while the heater will keep the temperature levels high enough so that water will not condense on the sensors. The preconcentrator will concentrate chemicals at ambient temperature on an adsorbent material and then, by heating the preconcentrator, the chemicals will be freed so they can be analyzed by the chemiresistors. This makes it possible to analyze chemicals whose concentration levels may be too low for direct detection by the chemiresistors.



CLOSEUP of sensor housing and cable.

Waterproof package

But it's the way the sensors are packaged that allows the device to be placed in water or underground. The protective package surrounding the chemiresistor chip developed by Cliff and other team members is small — about three centimeters in diameter. It is designed to be rugged and waterproof while allowing the chemiresistors to be exposed to VOCs in both aqueous and gas phases. Recent versions of the housing have been constructed of stainless steel; earlier versions used PEEK (PolyEtherEtherKetone), a semicrystalline plastic resistant to chemicals and fatigue.

"The package is modular like a watertight flashlight and is fitted with O-rings," Cliff says. "It can be unscrewed, allowing for easy exchange of components."

Another unique feature of the packaging is that it has a small "window" covered by a GORE-TEX® membrane to maintain a waterproof seal. Like clothing made of GORE-TEX, it repels liquid water but "breathes," allowing vapors to diffuse across the membrane. If the device is immersed in contaminated water, VOCs dissolved in the water will partition across the membrane into the gas phase, where they are detected by the chemiresistors.

Inside the packaging the chemiresistors are placed on a 16-pin dual inline package connected to a long weatherproof cable. The cable then can be connected to any data logger. Since only DC measurements are being made, the cable can be almost any length.

The research team will soon be starting the second year of a three-year



BOB HUGHES, "Dr. Chemiresistor," holds chemiresistors that are part of the real-time gas- and water-quality monitoring system he and Cliff Ho developed.

LDRD program and plans several field tests of the device. They recently deployed the chemiresistor sensor package at the Sandia Chemical Waste Landfill for a long-term test.

"I intend to record data for at least several weeks to several months to determine how the chemiresistor sensors will perform in a real *in-situ* environment," Cliff says. "The sensor is suspended about 60 feet down a screened well that has a depth of about 500 feet to the water table, and it is logging data every hour."

He hopes to learn from this field test the longevity of the sensor and the importance of temperature variations, barometric pressure changes, and ground humidity.

At the start of the new fiscal year Cliff plans a test at Edwards Air Force Base to determine the performance and robustness of the sensor package in wells with high chemical concentrations. Another is scheduled at the Nevada Test Site where the device will be tested in 55-gallon drums in an effort to evaluate how the sensors would act in a chemical spill.

Cliff and his team also have demonstrated novel characterization methods using real-time *in-situ* data from the chemiresistors in laboratory experiments to locate contaminant spills and optimize remediation methods.

"Over the next few years I expect we will see this invention being applied to DOE sites that require monitoring, remediation, and/or long-term stewardship of contaminated sites, which currently spend millions of dollars for off-site analysis of manual samples," Cliff says. "This device can also be applied to numerous commercial sites and applications, such as gas stations, which include more than two million underground storage tanks that require monitoring to satisfy EPA requirements."

Team members

Team members working on the real-time gas- and water-quality monitoring system include: Chad Davis (1744), Mike Thomas (1744), Mark Jenkins (1769), Graham Yelton (1743), Jonathan Blaich (1763, University of New Mexico student), Mike Kelley (6115), Michael Itamura (6852), Dan Lucero (9117), Angela McLain (6115, UNM student), Lucas McGrath (6115, UNM student), Irene Ma (6115, UNM student), Sharissa Young (6134), Henry Bryant (6134), Jeff Zirzow (6233), Cathy Nowlen (1745) and Paul Reynolds (Team Specialty Products).



FIELD TEST — Cliff Ho (6115, left) and Henry Bryant (6134) deploy a chemiresistor package at the Sandia Chemical Waste Landfill as part of a field test.

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

MISCELLANEOUS

CRAFTSMAN TABLE SAW w/stand, motor will operate on 110V or 220V, \$150. Essenmacher, 865-7066.

YELLOW LAB/MIX, female, sweet & intelligent, 18 mos. old, to caring family, shots, spayed, ID chip. Mora, 291-1250.

CRAFTSMAN ROUTER, 1-hp, w/router table, \$60; Craftsman Tool Vac, auto on & off, w/manual, \$75. Page, 275-1665.

KIRBY VACUUM CLEANER, w/full set of attachments, works well, \$100. Prevender, 296-8586.

FOUR TIRES, Firestone Light Truck, LT 215/75R15, Wilderness AT 3, 15K miles, not recalled, \$200 OBO. White, 255-8958.

QUEEN SOFA SLEEPER, 78-in., 3-pillow loose-back & seat, tuxedo style, light-cream quilted fabric, \$300. Case, 293-5466.

BOARDS, eight 2x4s, 30"-40", free for the taking. Hayes, 299-1200.

BABY CRIB/BED/DRESSER, combo by Childcraft, dresser has 3 drawers & 2 drawers are under the bed, \$250. Dailleboust, 898-3379.

TEMA BAR STOOL, brand-new, \$50. To, 797-1309.

CARDIOGLIDE, hardly used, \$25. Carroll, 298-2827.

'99 DIAMOND TRAILER, 16-ft., tandem axle, wt. 1,440, new tires, very good condition, \$1,850 OBO. Avila, 281-1200.

CAMPER SHELL, fiberglass, excellent condition, fits '88-'98 long wide-bed Chevy, \$1,100 new, asking \$500. Wolcott, 898-8329.

RYOBI DRILL/DRIVER, 18V, w/2 batteries & charger, \$50; six 3-blade ceiling fans, new, \$25 ea. Hall, 298-8614.

RANCH OAK DRESSER, chest w/drawers, corner desk, & chair, solid wood, \$150. Filter, 823-1232.

OFFICE FURNITURE: 2 tables, corner curve unit, shelf unit, & keyboard tray, hardly used, \$250 OBO. Davis, 298-3342.

TREADMILL, ProForm 920, excellent condition, \$200. Jogi, 275-3542.

REBIKE RECUMBENT BIKE, very comfortable, large tires, \$325; Legacy exercise workout bench, weights, & weight rack, \$200. Levin, 897-7145.

TWO BACKPACKS: blue REI, khaki Mountain Master, metal frames, good condition, \$25 ea. Pendall, 265-3008.

SOUTHWEST ROUNDTRIP TICKET, expires 10/31/01, good anywhere SW flies, \$275. Bollig, 294-8077.

TWO BASKETBALL SEASON TICKETS, UNM, Sec. 13, Row 8, Seats 17-18 (on aisle), \$286/ticket. Giersch, 228-3528.

WEIGHT BENCH, w/incline adjust, leg-lift attachment, barbell, & weights, \$50. Torres, 292-1663.

NM COLLIE RESCUE: 8 collies (1 mix) available for adoption to approved homes, 3 mos. to 12 yrs. old, \$150 adoption fee includes spay/neuter & shots. Zimpel, 286-1475, leave message.

DINING FURNITURE, natural solid oak w/leaf, 6 upholstered chairs, china cabinet, \$950. Pappas, 856-7055.

FOUR TIRES, Pirelli Scorpion, AT RWL, 15-in., on Chevy 5-hole aluminum rims from S-10 Blazer. Miller, 299-0335.

SOUTHWEST TICKET, roundtrip, expires 8/2002, good anywhere Southwest flies, \$325. Holland, 856-3697.

SOFTWARE, Microsoft Office XP Professional, in unopened box, full retail price \$579, upgrade price \$329, asking \$300. Cocain, 281-2282.

TRUNDLE BED, steel frame w/mattress, \$125. Getz, 299-4865.

SAMSONITE FOLDING CHAIRS, household items, tools. Bear, 881-7128.

IN-GROUND HOT TUB, w/cover, already dug up, free, you haul. Flores, 291-0512 or 228-2306.

PULSE DRUM SET, 5-piece, w/throne, metallic green, \$350. Adams, 821-0899.

FIREWOOD, \$70 cord; video recorder, w/stand, \$175; dining table, w/6 chairs & buffet, \$325; youth bed w/mattress, \$60. Naranjo, 265-6369.

PATIO FURNITURE, deluxe 9-piece Web Finkel, 36-in. glass table, 4 chairs, umbrella, conrtrite stand, 2 chaise lounges, \$280. Hagerman, 280-1696.

TWO SOUTHWEST TICKETS, roundtrip, anywhere SW flies, expire 8/2002, fully transferable, \$315 ea. Lopez, 275-2090.

K-2 ROLLER BLADES, man's size 10, \$50; martial arts hand- & foot-pads, size M/L, excellent, \$25. Williams, 344-7596.

HP SCANNER, Model 4P, includes ISA-SCSI card, HP & Visioneer software, & manuals, \$75. Pelletier, 884-3726.

LAB/SHEPHERD CROSS, female, approx. 6-8 mos. old, sweet, gentle disposition, microchip ID, shots. Zelnio, 877-1465.

FOUR TRUCK TIRES, Michelin, 31x1050, LT ATX, excellent condition, \$150 OBO for all. Schol 254-2100.

NEW TIRE, P185/80R13, tread wear 330, traction A, temperature B, \$15; Craftsman radial-arm saw, 9-in, rolling base w/4 drawers, 5 blades, \$200. Holmes, 292-0898.

TIRES/RIMS, Chevy truck, 2 tires (235-85R16), 4 white spoked 8-lug rims, 4 chrome wheel covers, all \$35. Pinick, 530-4783 or 897-6425.

FOUR WINTER COVERS for evaporative coolers, 31-1/2" x 38", galvanized steel, used once, \$40 the set. Moss, 298-2643.

DINETTE SET, round table w/extension & 4 upholstered chairs, excellent condition, \$250 firm. Chorley, 296-1454.

SPA, Baja Industries, 6-seater, 1-hp circulation pump, air motor, air-operated switches, heater, filters, \$250. Little, 883-9329.

YARD SALE, Fri. & Sat., 9/21 & 9/22, 319 Jefferson NE, 7:30 a.m., collectibles, vintage jewelry, steamer trunk, housewares, file cabinets, darkroom equipment, tools. Everett, 268-7818.

COMPUTER HUTCH, w/pull-out keyboard & printer shelf, good condition, \$20. Fong, 822-1367.

FULL-SIZE BED w/box spring, frame, \$350; queen-size bed, w/box spring, frame, \$475; both good condition. Hampton, 896-3218.

KENMORE SELF-CLEANING oven, black, excellent condition, \$100. Guttman, 888-5114.

KITTEN, female, to good home, 3 mos. old, first shots given, beautiful, black/brown/white markings. Rahimian, 385-5638.

OFFICE DESK, 47"L x 30" x 26", regular drawer & file drawer, \$50 OBO; fireplace doors, 38" x 25", bronze. Long, 294-4591.

CRAFTSMAN TABLE SAW, 10-in., \$75; utility table, \$20; 3-way exercycle, \$20; dual halogen shop light, \$20; furniture/antiques. Hollister, 323-1659.

How to submit classified ads

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

- E-MAIL: Janet Carpenter (jacarpe@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 Janet at 844-7841. 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.

TWO TIRES, P235 75 R15, 1 General, 1 Pathfinder, almost new, \$60 pr. Guthrie, 821-9691.

BOSE 901 SPEAKERS, Series VI, w/equalizer, \$685; Sony receiver, Dolby surround, Prologic, DTS, \$300. Brown, 831-6242.

TRANSPORTATION

'79 CORVETTE, Indianapolis pace car, silver, glass T-tops, new 454 Big Block, w/shift-kit, new leather interior, \$12,000. Sisneros, 247-0666.

'00 SUZUKI GRAND VITARA, 4WD, 4-dr., power everything, excellent condition, new baby, must sell, \$15,200. Reece, 268-9758.

'98 FIREBIRD TRANS AM, WS6 Ram Air, 6-spd., black exterior, leather interior, 12CD, 500W AM/FM cassette, 17-in. wheels, \$18,750. Weston, 350-7059.

'96 CADILLAC SEVILLE, 4 dr. sedan SLS, 45,500 miles, truly luxurious, estate sale item, \$18,000. Cook, 256-5196.

'99 CHEVY S-10 PICKUP, ext. cab, 2.2L, 5-spd., AC, AM/FM, only 16K miles, \$9,650 OBO. Finch, 296-6663.

'65 FORD MUSTANG, excellent condition, red w/black interior, 200ci, 3-spd., must sell, \$3,800. Lucero, 345-6420.

'91 HONDA CIVIC CRX HF, hatchback, 5-spd., AC, AM/FM cassette, red, sunroof, \$4,000. Gamblin, 822-1188.

CHEVROLET C2500, 3/4-ton, X-cab, short bed, towing package, all power, 15K miles, under blue book, \$22,800. Stocks, 823-2492.

'91 FORD EXPLORER XLT, 4WD, 4-dr., loaded, tow package, hitch, running boards, 1 owner, very clean, \$4,975. McCulloch, 821-4404.

'96 CHEVY Z71 TRUCK, ext. cab, short bed, 4WD, matching camper shell, bed liner, tow package, perfect condition, original owner, 46K miles, \$17,500 OBO. Dwyer, 271-0741.

'97 MERCURY SABLE; bids through 9/21/01; right to refuse bids; sold as is. SLFCU, 237-7386, 7354, or 7384.

'95 FORD CONVERSION VAN, Explorer package, fully loaded, 75K miles, excellent condition, \$9,500 OBO. Archibeque, 898-2955.

'90 PONTIAC FIREBIRD, all power, T-top, security alarm, AM/FM cassette, \$3,800 OBO. Chavez, 836-5634, after 5 p.m.

'97 TOYOTA LAND CRUISER, every option available, pearl silver/charcoal, 96K miles, clean, excellent, (retail \$27,100 w/deduction of high miles) \$22,000. Lindgren, 271-1328.

'89 PONTIAC BONNEVILLE, white, AC, AM/FM, cruise control, excellent condition, \$1,500 OBO. Brannon, 296-6674.

'95 NISSAN PICKUP, 4x4, 76K miles, grill guard, alarm, lift package, many extras, \$7,950. Moreno, 888-5959 or 294-4268.

'91 HONDA CIVIC WAGON, 4WD, 140K miles, brown, AT, AC, clean, excellent condition, \$3,500. Aragon, 899-0122.

'91 DODGE CARAVAN SE, 3-liter engine, 130K miles, good tires, runs great, tow package, \$1,725 OBO. Miller, 275-8154.

'97 FORD EXPLORER XLT, FWD, white, excellent condition, Michelin tires, 68K miles, \$9,000. Shettlesworth, 883-6143.

'88 FORD RANGER XLT, super cab, excellent condition, AT, AC, gray, nice rims, 107K miles, CD, \$2,950. Sorensen, 822-1733.

'97 DODGE RAM 1500, club cab, 4WD, red, AT, AC, AM/FM CD, 49K miles, loaded, like new, \$19,800. Trujillo, 899-9471.

'99 CHEVY S-10 PICKUP, ext. cab, 2.2L, 5-spd., AC, AM/FM, only 16K miles, \$9,650 OBO. Finch, 296-6663.

'95 DODGE DAKOTA SPORT, pickup, 5-spd., bed liner, alloy wheels, new tires, more, \$4,900. Lenberg, 238-0362.

'98 VOLVO WAGON, Cross-Country, AWD, all power options, leather, sunroof, highway miles, immaculate, \$21,000. Brown, 261-4595.

RECREATIONAL

POP-UP CAMPER, 25th Anniversary '93 Jayco Cardinal, awning, toilet, shower, closet, new battery, \$3,500. McRee, 898-5030.

'93 HARLEY-DAVIDSON, Dyna Wideglide, excellent condition, Screaming Eagle kit, aqua two-tone, 23K miles, \$11,000. Chavez, 298-7465.

CAMPER TRAILER, '71 Starcraft pop-up, sleeps 4-6, stove, sink, icebox, propane bottle, old but great condition. Schamaun, 298-5192.

'87 WILDERNESS TRAVEL TRAILER, 24-ft., sleeps 7, self-contained, AC, large refrigerator, excellent tires, \$5,000. Prentice, 299-4595.

'92 COACHMEN CAPRI CAMPER, 25-ft., Class A, 14K miles, \$20,000 OBO. Kennedy, 865-7874.

'98 HARLEY ULTRA CLASSIC, full dresser, white, approx. 14K miles, w/light bar, more, \$18,000 OBO. Montoya, 299-0624.

'86 PACE ARROW ELEGANZA, Class A, 31-ft, loaded, includes tow kit for car. Stixrud, 298-0478.

'92 TIOGA ARROW MOTORHOME, new awning, AC, 460 Ford V8, excellent condition, 61K miles, \$20,500 OBO. Hahn, 822-1341.

'01 HARLEY DAVIDSON, Heritage Classic, 2,500 miles, w/extras, dark blue, \$21,000. Gore, 836-7477.

'87 SUN VISTA MOTORHOME, 31-ft., 1 owner, \$12,000; 21-ft. Weekender cabin cruiser, best of show in '84, \$9,000. LaFon, 298-1636.

MAN'S ALL-TERRAIN BICYCLE, 21-spd. Giant Sedona, barely used, \$99 OBO. Jones, 843-9645.

REAL ESTATE

3-4-BDR. TOWNHOME, The Shores, beautiful 3-level, 3-1/2 baths, fully painted, new carpet & hardwood floors, view of ponds, quiet & nice neighborhood. Hoffman, 269-1604, ask for Francie.

3-BDR. MOBILE HOME, double-wide, at 4HMHP, 2 baths, excellent condition, many upgrades, great yard w/fruit trees, \$19,500. Romero, 275-1737.

2-BDR. HOME, 1-3/4 baths, fireplace, skylights, new carpet & tile, 2-car garage, near Montgomery & Pennsylvania, approx. 1,300 sq. ft., \$122,500. Decker, 889-2726.

2.5-ACRE VIEW LOT, secure gated community, East Mountains, 20 min. from lab, water, power, phone, \$39,500. Smith, 281-5096 or 281-2851.

2-BDR. MOBILE HOME, 14' x 52', KB Baywood, w/vaulted ceilings & all appliances, in 4-Hills park, clean & affordable. Haushalter, 275-6772.

WANTED

ELECTRIC CONCRETE MIXER, small-capacity, electric, will buy outright or purchase part interest. Leeman, 281-7949.

HOBBY/TALENT DONATIONS, tax deductible, for the Sandia High School Silent Auction, Oct. 6. Rockwell, 884-4206.

DAY BED OR FUTON, in good condition. Mcintyre-Pacheco, 873-0999.

ROOM TO RENT, or house-sitting, for German student from mid-Sept. to mid-Dec., non-smoker, needs kitchen privileges. Newman, 255-3602, ask for Greg.

SNOWBOARD car-top carrier. Callahan, 298-6674.

MID-SIZE REFRIGERATOR & gas range, in good working condition. Vigil, 880-0026.

MAN'S GOLF CLUBS, Callaway Warbird, 7-wood & 9-wood, '96 RCH graphite shaft, regular flex, excellent condition only. Malcomb, 294-6975.

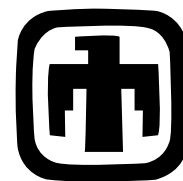
SUZUKI SAMURAI HARDTOP, cutting torch, heavy-duty hand grinder, electric air compressor, air tools. Greene, 890-6808, ask for Bill.

WORK WANTED

STUDENT WILL provide vehicle maintenance, tune-ups, oil, brakes, small repairs, great prices. O'Rourke, 453-8177.

LOST & FOUND

RING, found in Bldg. 10520 (Research Park), please call and identify. Cotinola, 352-3881.



Heavy traffic greets Sandians going and coming



GOING & COMING — After word of the strikes at the World Trade Center and the Pentagon Sept. 11, all nonessential Sandians were sent home at mid-morning. The upper photo shows the streams of cars leaving the Wyoming gate around 10 a.m. The bottom picture was taken early Thursday, Sept. 13, two days after the attack, when Sandia reopened. Kirtland Air Force Base was under heightened security, causing identification of all entering the base to be checked and resulting in long backups. (Photos by Randy Montoya)

Sandia strategy boosts small-business suppliers, Joan Woodard testifies at House field hearing

As a result of an explicit strategy, Sandia continues to fulfill its wide array of goals in support of small business, Executive VP and Deputy director Joan Woodard told the US House of Representatives Committee on Small Business in a field hearing in Santa Fe Aug. 27.

"I am pleased to report that Sandia... has met or exceeded all its goals for small, small disadvantaged, women-owned, and 8(a) businesses in each of the last five fiscal years, and we are on track to do the same in fiscal year 2001," Joan said.

She said 57 percent of Sandia's procurement dollars went to small businesses during the last five fiscal years, a total of nearly \$1.5 billion. She reported that about half of all the funds that Sandia spends on commercial business procurements is with firms in New Mexico — \$250 million a year on average.

These figures — and others she gave — "are encouraging," she said, "but it would be misleading to leave the impression that our procurement policy gives preference to small and local businesses regardless of merit or comparison with other competitive entities. Our goal is to acquire goods and services that meet the requirements of DOE mission programs in terms of performance, cost, and schedule. The many small businesses that win awards with Sandia... must meet high quality standards."

"Sandia's success in providing contracting opportunities for small businesses is the result of an explicit strategy established and overseen by top management and carried out by talented professionals in our procurement and partnerships organizations," Joan said.

Proactive and committed

"We are proactive in seeking out small, minority, women-owned, and 8(a) suppliers to compete for our contracts," she said. "We are committed to developing and maintaining efficient processes for subcontractor solicitation, selection, and award."

Sandia has two departments that actively work with small businesses and the local business community — Small Business Advocacy Office 1302 (Vic Chavez, manager) and Supplier Relations Dept. 10205 (Cynthia Schneeberger, manager). They team together to carry out the strategies and goals Joan described in her testimony.

Sandia's success in the small-business arena has been recognized nationally, Joan said, including the Dwight D. Eisenhower award from the Small Business Administration in 2000, DOE's designation of Sandia as Management and Operating Contractor of the Year in 2000, the US Hispanic Chamber of Commerce's designation of

Sandia as Southwest Region Business Advocate of the Year in 2000, and DOE's Small Business Special Emphasis Award, for small business contracting, in June 2001.

She said Sandia regularly seeks feedback about its small-business practices. While the results "are generally very positive," she emphasizes that she knows the Labs can do even better and is constantly looking for ways to improve.

She noted that Sandia's procurement and partnership organizations conduct outreach programs and arrange technical assistance for small businesses to encourage their success.

Simply good business practice

Joan said Sandia doesn't have a preference policy for New Mexico suppliers, but added, "It is simply good business practice to encourage local and small suppliers" to be competitive. "We need a local supplier base that can offer world-class capabilities, services, and products with high levels of quality performance."

"These two objectives — helping New Mexico small businesses and fostering a world-class supplier base for our mission needs — should not be seen as incompatible," Joan said.

She noted that some of the efforts to bolster efficiency have caused "some pain and dislocation in the supplier community" but were nevertheless necessary. As an example she cited staff augmentation contracting.

"Previously, Sandia had hundreds of contractors providing staff augmentation. Today that number has been reduced to eight... These firms are stronger, more responsible, and flexible, and are able to compete at a higher level."

"With the cooperation of the supplier community, we have automated the cost-allocation process, reduced invoice processing costs and other internal contracting costs, gained advantages related to economics of scale, simplified processes, and challenged our contractors to reduce their costs as well."

She said Sandia recognized that the consolidation process of staff augmentation contracts "was not going to be a painless process." She said she hopes participants will agree that the change has strengthened contractors' ability to acquire and retain the supplemental talent Sandia requires, but she acknowledged that there are still concerns to be resolved.

Joan noted that Sandia offers a variety of supplier development resources. Among them are training opportunities for local suppliers, quality assurance training in accordance with ISO 9000 standards, and a new mentor-protégé program offered by Sandia's Small Business Advocacy Office (*Lab News*, Aug. 24).

"Our desire," she concluded, "is to provide opportunities not just for contracting, but for small businesses to deliver levels of quality performance that make them competitive with peer companies anywhere in the world. We are eager to partner with our small-business suppliers for mutual excellence."

Joan's full testimony can be found at <http://www.sandia.gov/testimony/pdf/010827.pdf>.

Coronado Club

Sept. 21 — Comedy show. A la carte buffet will be available. After the show, the bar will have drink specials and entertainment with DJ/karaoke.

Sept. 28 — Mystery Dinner Theater.

Sept. 30 — Brunch, 10:30 a.m.-1 p.m.; entertainment, 1-5 p.m.

Oct. 5 — Oktoberfest featuring special German cuisine.

Oct. 19 — Country and Western night featuring dinner and dancing with a live country/western band.

You may donate used wheelchairs, attend disability outreach fair Sept. 29

Sandia employees, contractors, and retirees: Do you have an unused wheelchair stored away? Crutches? Walkers? Canes? Now is the time to do something constructive with them.

Wheels For the World, a nonprofit organization, will collect them and have them restored to near new condition before sending them to those in need abroad.

Wheelchairs and metal walking aids are being collected all this month, culminating on Saturday, Sept. 29, with a community health fair and disability outreach event at Calgary Chapel, 4001 Osuna Rd. NE, 9 a.m.-2 p.m. A wheelchair tune-up clinic, where users can get their chairs safety-checked, tuned-up, and steam-cleaned, will run there during that same time. The latest wheelchair models, cushions, vans, and other equipment will be on display. The event is scheduled to be preceded at 7 a.m. with tethered hot air balloon rides.

For more information or to donate a wheelchair, walker, crutches, or canes, call Paul or Debbie Faculjak (ret.) at 823-9686.