

Local auto glass company builds a better 'egg basket'

Windshield distributor taps Labs' transportation expertise

By John German

Lab News Staff

Two years ago, when the auto glass packaging industry resolved to do a better job of protecting its eggs, a new "egg basket" was already in the works at Interstate Glass Distributors (IGD), a small Albuquerque auto glass distributing company.

Off in a corner of IGD's warehouse, workers had spent months working on the "crate" — a lightweight, stackable, collapsible, reusable, recyclable container made of recycled plastic, meant to hold some 30 egg-fragile automobile windshields as they are shipped across the country.

Traditionally, auto glass is shipped in wooden or cardboard crates with nothing but cardboard or foam sheets between

panes. During shipping and warehousing operations, the crates get stacked, squeezed, jarred, and dropped.

As a result, a crate of 30 windshields often arrives at the distributor with one or more broken pieces inside. That translates to some \$15 million swallowed by the auto glass industry each year in breakage alone. The rising costs of disposing of one-time-use crates also burden the industry with an additional several million

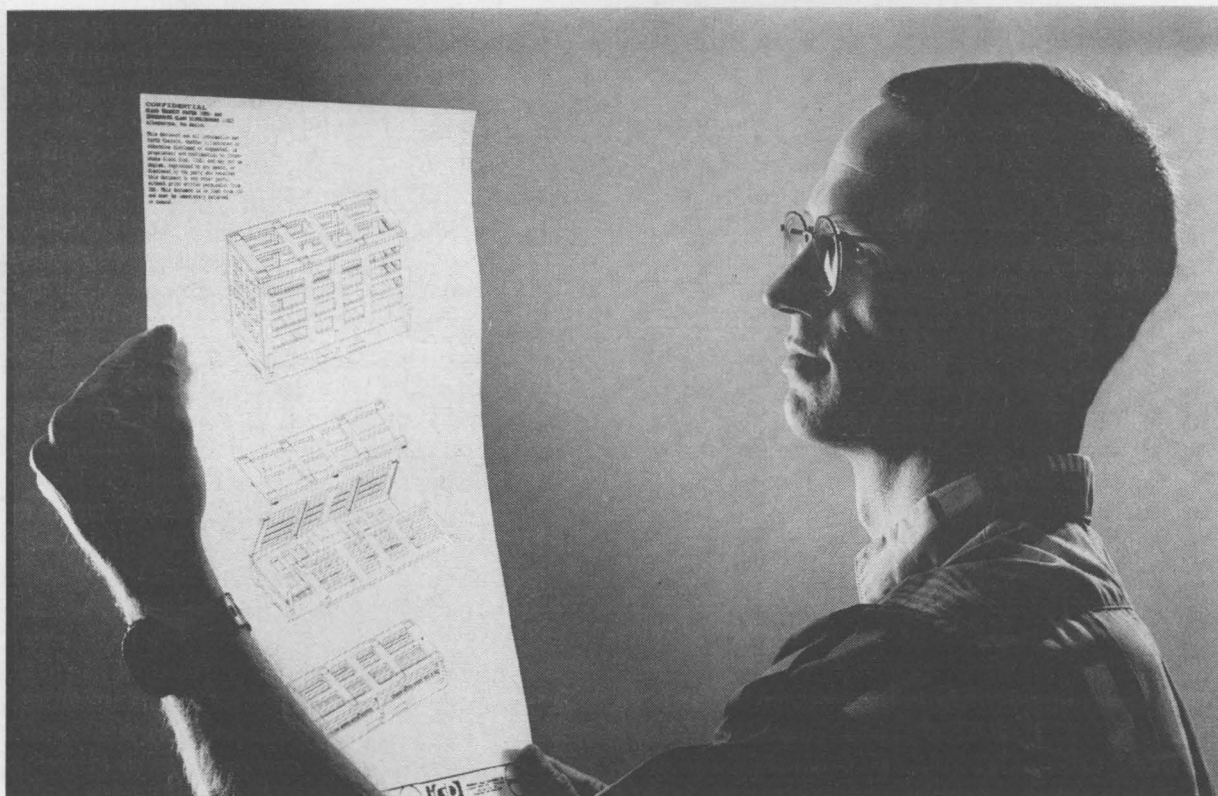
The IGD container could be described as a "kinder, gentler crate."

dollars annually.

The IGD crate, however, could be described as a "kinder, gentler crate." Intended for many repeated uses, it employs inflatable cushions inside to hold glass upright and in place. It's stur-

dier than a traditional crate, so it can be stacked higher. And it's collapsible, so it can be knocked down and returned to the manufacturer.

IGD President Dago Ruiz conceived the
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DAVE HARDING of Transportation Systems Dept. 6642 is helping Interstate Glass Distributors, a small Albuquerque auto glass distributing company, make significant improvements to a new shipping crate that should help the auto glass packaging industry reduce the rate of windshield breakage. (Photo by Randy Montoya)

NATO surety group visits Sandia, receives weapons security technologies demo

By Tammy Locke

Lab News Staff

A North Atlantic Treaty Organization (NATO) nuclear surety advisory body responsible for developing security policies for the nuclear stockpile in Europe gathered at Sandia June 5-9 for its spring meeting, which included a technology tour.

The visit of the Joint Theater Surety Management Group (JTSMG) was hosted by Nuclear Security Systems Center 5800.

Center 5800 arranged a "Sandia Day" for the JTSMG, half-way into the visit: Gene Ives, Director of Defense Programs Sector Weapon Development Center 5200, briefed the NATO group on the Labs' role and responsibilities with nuclear weapons. Then the visitors participated in several security technology demonstrations. The visit also attracted interest from other Labs organizations and included informal meetings with many of these visitors.

Foams, transports, robots

On Sandia Day, the NATO visitors were introduced to various Sandia-developed security technologies, including those for access delay. They saw demonstrations of the Rapid Deployment Access Delay System (RAPADS), a modular vault system designed to provide high-security protection for conventional or nuclear weapons, or other valuable materials; the Sticky Foam Gun, fired at a mannequin to demonstrate the extremely tacky, tenacious material used to entangle and impair an individual; access-delay hardware, including high-expansion aqueous foam, which isolates individuals visually and acoustically; and an

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Sandia National Laboratories

Rapid prototyping shrinks time to make printed circuit boards

Two weeks from design to delivery

By Mary Hatheway

Lab News Intern

It seems everything is quicker these days. Just ask Carrie Neugebauer, Manager of Electro-Mechanical Design Services Dept. 2784.

Carrie and her staff have developed a process for rapid prototyping of printed circuit boards (PCBs) that enables them to deliver a completed PCB to a customer within two weeks of a design request.

"Now we can go from customer request to product realization in a fraction of the time it used to take," she says. "Two years ago, it took months to produce a paper drawing and artwork for a PCB prototype. Now it takes us only about two weeks to deliver a finished board."

But things have not always been so effi-

cient. "Two years ago, we had a 'throw-it-over-the-wall' mentality because we were involved only on the design side of the equation, not the manufacturing side," Carrie says. "We could design a PCB within the confines of our computer-aided engineering (CAE) tools, but then we would hand the design over to the manufacturer and say, 'We designed it, now it's your job to build it.' That approach was ineffective and not customer-oriented."

The old process often left customers with designs for PCBs that could not be produced cost-effectively or for high yields, Carrie says, so the department re-evaluated its process to improve its customer service.

"Cost, quality, and schedule were the three indicators we looked at in developing this

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- 3 CRF chemist wins prestigious award for laser analysis method
- 6 The Internal Web comes of age: 12 helpful new features
- 9 Futuristic flick garners international praise for Labs producers

This & That

9/80 work schedule and 4/12 meetings - Starting next Friday, many of us will be eligible to begin the new 9/80 work schedule, working 80 hours (at least) in nine workdays and taking every other Friday off. Now Craig Tyner (6216) thinks we need to do something about "4/12" meetings. He and I agree that some Sandia meetings take too long, and he put it in an interesting way recently after learning he was scheduled to attend a one and one-half day training meeting. "Once again, we've managed to cram four hours of training into a day and a half," he muttered.

* * *

Short, helpful, and free - Now, that's a winning combination when we're talking about reading material. Tamara Orth (13403), with help from others I'm sure, has authored what should be a real "best seller" - a guide for Sandians using the World Wide Web and Internal Web. I've read it, and I continue to use it. In only 13 pages (take note, long-winded writers), she explains how to get started, defines commonly used terms and acronyms, explains how to use the two Labs-endorsed browsers (Netscape and Mosaic), and offers lots of helpful hints.

If you want a copy, send Tamara an e-mail message requesting the *User's Guide for Sandia Supported WWW Browsers*. She can mail you a paper copy or "attach" an electronic copy to an e-mail reply if you have Word 6.0 for Windows; please tell her which type you need. To forward a request, most e-mail users at the Labs need only type in her last name, then her first; Tamara's full e-mail address is tlorth@Sandia.gov.

* * *

Lodging a complaint - I've stayed in quite a few motels/hotels in the past six months or so (no cheap jokes, please), and I have a gripe. If Forrest Gump hadn't already compared life to a box of chocolates, I might compare hotel rooms to them, for you never know what you're gonna get. Years ago, you could pretty much count on getting the basics in about every place - a bed, nightstand, lamp, towels, wash cloths, an itty-bitty bar of soap, and a TV with a fuzzy picture. (In the fancier joints, you also got a bed that would shake for a quarter.)

Now, some hotels also give you some of the following: "microbottles" of lotion, mouthwash, shampoo, and conditioner; hair dryer; alarm clock; shoe-shine cloth; and robes. This is nice, but the problem is you never know whether to take those items with you from home when traveling to a new place. Many hotels now also offer expensive in-room movies you can order to watch on your fuzzy TV. I wonder if it's OK to deduct those movie costs from your taxes as "educational expenses," because someone told me you can really learn things from some of those movies.

* * *

Thanks for fantastic response! - Late last month, I mailed a survey to a random sample of 375 Sandians, basically trying to determine how ready and willing employees are to receive more news and communications electronically (e-mail, Internal Web, voicemail) instead of on paper. At last count, 62 percent of these folks had returned completed surveys - a great response. Thanks to everyone who participated. We're compiling the results now; look for a *Lab News* article soon that will report the results and how we plan to use them as we reexamine and redesign Sandia's employee communications programs.

- Larry Perrine (845-8511, MS 0129)



ERNEST C. PHILANTHROPE is earnest about the Employee Contribution Plan (ECP). The new ECP mascot will be popping up here and there around Sandia, including *Lab News* pages, Radio Sandia, and on the Internal Web. Look for him in unexpected places. Look for him in this issue of the *Lab News*. "I'll be sharing facts about where your ECP dollars go and who they help through services provided by United Way of Central New Mexico health and human service agencies," says Ernest. "For instance, did you know that one dollar a week provides one day of shelter for a victim of domestic violence and two children? I'm really focused on our community this year. I'll be helping Sandians build a stronger community through successful children, healthy families, and independent adults."

Card of Thanks

My family and I would like to extend our thanks to the many Sandians and their families for all the prayers, cards, money, flowers, and for just being present, in our time of sorrow in the death of our baby boy, Keanu Ray Campos. Just knowing that so many people cared gave my husband and me the strength and hope we needed to try and go on with our everyday lives.

- Debbie Lee Campos (10210)

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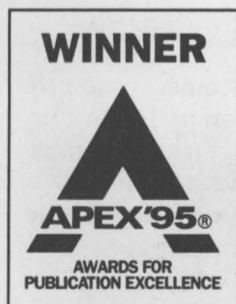
Lab News wins three awards for communications excellence

The *Sandia Lab News* has won three Awards of Excellence in the APEX '95 Awards for Publication Excellence competition for professional communicators. The APEX awards are based on

excellence in editorial content, graphic design, and ability to achieve overall communications excellence.

Lab News photographer Randy Montoya was recognized in the Photo Series or Spread category for his two-

page spread of seven photos in the Sept. 2, 1994, *Lab News* illustrating a week-long field training session organized by Sandia for the nation's top bomb-squad technicians. Managing Editor Ken Frazier was recognized in the News Writing category for his article "To the opposite ends of the Earth: Studies show what happens when an asteroid hits our planet" in



the Oct. 28, 1994, issue. And Editor Larry Perrine was recognized in the Editorial and Column Writing category for his "This and That" column in the June 24, 1994, *Lab News*.

Nearly 3,600 entries were submitted to this year's APEX competition, sponsored by Communications Concepts, Inc. Awards of Excellence recognize "exceptional entries" in various categories. Although this was the seventh annual APEX Awards competition, it was the first time the *Lab News* had submitted entries.

Welcome

New Mexico - Ben Aragon (1128), Dwight Coles (9621), Steve Gonzales (2346), Frederic March (7258), Sarah Renfro (12830), Lorraine Sena-Rondeau (14507), Arthur Shanks (7572), Ronald Wood (9426)

Arizona - James Taglianetti (13315)

Colorado - David Schoch (13313)

Maryland - Richard Conaway (10400)

Nevada - Nancy Dury (6314)

Puerto Rico - Irvin Marrero-Rosa (5932)

Sandian sheds (laser) light on chemical analysis

David Rakestraw receives scientific award for research in molecular spectroscopy

By Nancy Garcia

California Reporter

When David Rakestraw came to Sandia's Combustion Research Center after receiving his PhD in chemistry from Stanford University almost seven years ago, his job was to develop new laser-based methods of chemical analyses.

Now he has received a prestigious Coblentz Award "for outstanding accomplishments in the area of molecular spectroscopy by a scientist under the age of 36."

David says his work in Combustion Chemistry Dept. 8353 was subject to letters of nomination and support from people around the world who recognized that his laser diagnostic approach has broad applications to chemists in many fields.

The award was inaugurated 30 years ago in honor of physicist W.W. Coblentz, who demonstrated the potential application of infrared spectroscopy to chemistry. Spectroscopy is the examination of matter using different wavelengths of light.

Extending an existing technique, David demonstrated that fleeting compounds created and destroyed during combustion can be detected by shining laser beams on a sample, even if the sample is in the middle of an operating furnace or an internal combustion engine. Previously, the technique had not been used as an analytical tool.

The technique, called degenerate four-wave mixing, involves shining three identical laser beams onto a sample to generate a fourth

beam. The fourth beam is generated if a certain wavelength of light causes a particular compound in the sample to resonate. In the past, this technique was used with a known sample to obtain a fourth laser beam free of distortion effects. (That application is called optical phase conjugation.)

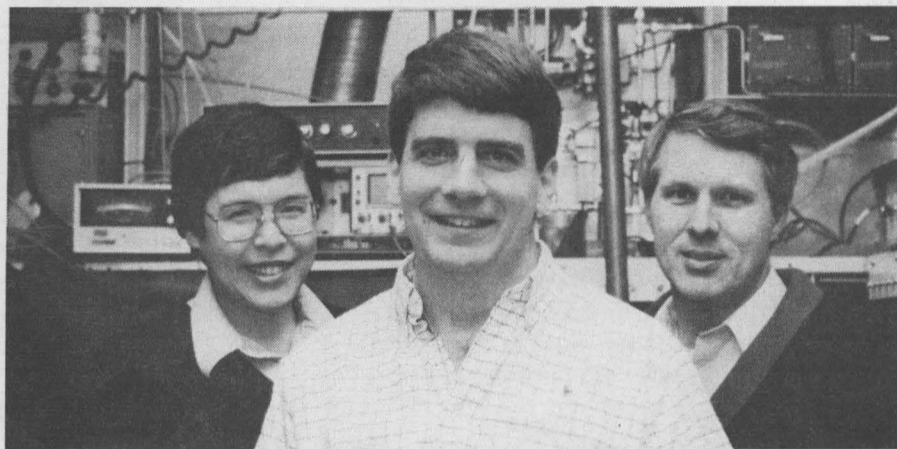
"Nobody had really recognized the power of this technique for detecting trace molecules," David says.

The relatively new analytical technique involves scanning a sample of unknown content with different wavelengths of light. The resultant beam indicates what types of molecules are present, and their concentrations. The technique is nonlinear because the resultant beam is proportional to the product of the energy introduced by the three original beams.

"It's still a fairly difficult technique to use," David says. However, its application can be widespread for chemists who need to identify different molecules. Besides its current use in combustion research, David says there are many more areas where it is now also being applied.

Several Sandians helped develop this technique to detect molecules that are critical to understanding combustion chemistry. Both Roger Farrow and Larry Rahn of Diagnostic & Reacting Flow Dept. 8351 were instrumental, David says.

David received his award at the Ohio State University International Symposium on Molecular Spectroscopy earlier this month. He received his bachelor's degree in chemistry from Ohio Northern University and is preparing to donate his \$1,500 cash award to Ohio Northern's Chemistry Department to support a scholarship for summer research, similar to the research grants he received as an undergraduate student there.



CHEMICAL diagnostic accomplishments have garnered a prestigious research award for Sandian David Rakestraw (8353, center). With him are colleagues Roger Farrow (left) and Larry Rahn (right), both 8351, who helped in developing the novel diagnostic technique.

California outreach group helps showcase Sandia

Sandia developing a constituency in the state's busy economic landscape

Sandia has a second barrel in its gun when it comes to demonstrating the Labs' benefits — proximity to the nation's leading high-tech corridor in California.

To take advantage of that opportunity, Sandians with outreach roles in several corporate centers began coordinating their efforts in biweekly meetings a year ago. The group draws members from the California Technology Transfer Center 8800, Public Affairs & Employee Communication Dept. 8502, Government Relations Program Office 12120, Education Outreach Dept. 8528, Technical Communications Dept. 8535, the San Jose Microelectronics Program Office 8006, and the Combustion Research Facility in 8300.

"We formed to provide a strategic focus to our interactions with the outside world," says Technology Transfer Director Mike Dyer, "and develop a constituency with industry, universities, educators, government, and taxpayers — the stakeholders that ultimately are deciding our future."

This handful of Sandians leverages the Labs' presence in the nation's most populous state by participating in 20 key economic development and scientific groups in the region. As a result, Mike says, Sandia is drawing a second presence on the map.

For instance, when Rep. Frank Riggs, of Napa, planned to tour the other two Bay Area national laboratories during his spring recess, he also asked to visit Sandia. When the Bay Area Rapid Transit District discussed its emerging relationship with national laboratories at the last meeting of the Alameda County Economic Development Advisory Board, a collaboration with Sandians from both sites was a case

in point. And when recognitions were awarded at the same meeting for economic outreach, Sandian Ron Stoltz of Corporate Manufacturing Infrastructure Dept. 8008 was acknowledged for chairing the resource committee of the California Manufacturing Extension Center, at the same time that individuals from California universities, state government, and Lawrence Livermore National Laboratory were also honored.

The busy Bay Area economic landscape poses a challenge for Sandia's California Outreach Group (COG) representatives to use their position at the smaller of Sandia's two sites to leverage corporate assets and gain recognition for the Labs as one of the many world-class R&D resources in the region, Mike adds.

"The point is to show the community that national laboratories are important to the region and the nation at the same time. The way we really convince them is by showing we fulfill our national responsibilities by also being of value to the region," he says.

Response 'incredibly positive'

"Through our interactions, we have the opportunity to show that we're developing a technology base that contributes to major problems facing the public in security, energy, and the environment."

Already, says Government Relations Manager Jane Ann Lamph, "the response has been incredibly positive, and our contacts have led to new contacts. For instance, the state of California has sought us out to learn more about the national laboratories. We recently briefed top state officials, including members of the cabinet and legislature."

Since coordinating a well-received Microelectronics Network Day in Santa Clara in August, Sandia's San Jose Microelectronics Office has contacted more than 400 representatives of 225 different semiconductor companies, says Dept. 8006 Manager Jay Jakubczak. Upon recognizing that Sandia has an office just down the street, National Semiconductor Corp. recently requested a meeting between Sandia and 13 of the company's technology and market development managers. They identified 30 Sandia technologies as valuable for possible licensing. "Being almost next door significantly improves the opportunities for communicating," Jay notes.

Sandia California News

Education Outreach Manager Karen Scott sees a synergy between the groups' different strategic needs. For instance, Rep. Norman Mineta, of San Jose, initially met Sandians when he accepted an invitation to the national Science Bowl championship in Washington, D.C. As the ranking member of the House Transportation and Infrastructure Committee, he later met Sandia/California Vice President John Crawford, Jane Ann, and Jay in San Jose regarding potential benefits of applying Sandia technologies to transportation issues.

There's also a side benefit of this increased emphasis on the external world, says Public Affairs Manager Barry Schrader. "The media and public seem to relish learning more about us."

— Nancy Garcia

Prototyping

(Continued from page 1)

process," she says. "Most of our customers are dealing with tighter budgets in an increasingly technologically sophisticated world. They need to maintain their level of quality for less money, and they need to do so in a timely manner."

Carrie says that by working closely with the department's computer vendor, Intergraph Software, they were able to help develop software capable of meeting their customers' design needs. The software package used by Dept. 2784 features a shape-based, gridless autorouting tool. Using complex mathematical algorithms, the autorouter figures out the pathways for the thousands of electronic traces connecting the circuits on the board.

The manual method the department used before the autorouter was the most time-consuming task in the entire design process. Previously, it took several days to weeks to manually route a PCB, compared to the minutes or hours it takes now.

New, intimate relationships

One of the key success factors was the close interaction with several commercial fabrication vendors to reduce cycle time and costs while increasing quality. "Our goal was to provide military-quality products our Sandia customers were comfortable with at commercial prices," Carrie says.

She says the new, intimate relationship Dept. 2784 has with its vendors allows the group to design for manufacturing problems up front.

"A customer can do multiple computer iterations on a PCB before the board is sent for fabrication," she says. "That's phenomenal. And if we have design features on a PCB that prevent it from being very manufacturable, the manufacturer will ask us, 'Are you sure you wanted to do this? Because it's going to cost money and time.' That new understanding and communication have been invaluable."

Carrie says the department goal is to deliver boards with zero defects to the customer. Judging by its error rate, the goal seems attainable. From 1993 to 1994, only 3 of 200 PCBs delivered by the department were defective, a success rate of 95 percent. This year, the success rate is running at about 98 percent.



PCB PATHWAYS — Lorraine Day (center) and Karen Tatum watch as Larry Pocket (all 2784) uses an autorouting tool to figure out the pathways for the thousands of electronic traces connecting the circuits on a printed circuit board (PCB). The three helped develop a process for rapid prototyping of PCBs that shrinks delivery time of a completed board from several months to two weeks.

"We've really come a long way with this rapid prototyping technology," Carrie says. "We're starting to pass our knowledge on to others at Sandia. In addition, other agencies in the nuclear weapons complex and the private sector have requested our assistance to move toward agile manufacturing and away from captive shop processes."

NATO visit

(Continued from page 1)

Intra-site Secure Transport Vehicle, designed to provide security and safety for on-site transportation of Special Nuclear Material or sensitive materials.

The visitors also viewed some Sandia robotic systems and got the opportunity to drive Dixie, a robotic all-terrain vehicle designed for remote reconnaissance. Sandians demonstrated portable sensors at the Exterior Sensor Test Facility near Area 3 and two modeling systems that showed the value of computer simulations for conducting assessments of the effectiveness of security systems.

About 40 JTSMG members and technical advisers attended the week-long meeting, representing the Program of Cooperation nations

(United Kingdom, Germany, Italy, Belgium, the Netherlands, Greece, Turkey, and the United States), NATO, the Supreme Headquarters Allied Powers Europe (SHAPE), Headquarters US European Command (USEUCOM), and Headquarters US Air Force Europe (USAFE).

JTSMG is co-chaired by USEUCOM (Col. Reed Heddleston) and SHAPE (Lt. Col. Henric Piet, Netherlands). It clarifies nuclear surety policies and gets concurrence to implement them. JTSMG also develops initiatives and improvements to the nuclear surety program. Surety, to the JTSMG, is mainly security, survivability, and safety.

Sandia has been providing technical support to the JTSMG almost since the group's inception 18 years ago. DOE also sends an adviser to the group.

JTSMG assists and advises the Senior Level Weapons Protection Group (SLWPG) — another NATO body, established in 1983 to

accelerate and complete the progress of the Long Range Security Program. The SLWPG establishes nuclear surety policy and reports to the Ministers of Defense.

Security R&D still underway

The Sandia Day demonstrations were consistent with those for previous JTSMG or SLWPG meetings, says John Kane, Manager of Weapons Security Program Office Dept. 5806 and Program Manager of Sandia's work with the JTSMG. (The JTSMG met at Sandia in June 1985 and September 1990; the SLWPG visited Sandia in 1985, 1987, 1989, 1991, and 1993.) Sandians also took advantage of the visit, says John, by meeting with visiting Air Force personnel to discuss the Air Force Work for Others security program and how to make DOE Defense Programs and the Work for Others program more synergistic.

"The purpose of the Sandia Day demonstrations for the JTSMG is to show the visitors that research and development is still underway on security technologies," says Fred Luetters, Manager of Security & Survivability Dept. 5822 and project manager for Sandia's work with USEUCOM in Germany and the JTSMG. Fred, along with Richard Davis (5800), Sandia resident technical adviser at USEUCOM/ECJ5-N (Nuclear Surety Plans and Policies Division), provides direct technical support — studies, analyses, data, resources, and technical advice — to the JTSMG. David Ek (5822), who helped host the meeting, was the resident technical adviser in Germany for three years until his return to Sandia last year.

"Sandia's Defense Programs sector endorses the US position that nuclear weapon security is important to NATO, and we continue to have R&D programs to support that position," says John.

Hot topic: Weapon storage, security

Sandia technologies are given high visibility during these visits. At a previous Sandia Day, says John, the Weapon Storage Vault (WSV) technology, developed by Sandia in the

(Continued on next page)



CHALK TALK — Edward Teller, left, visited Sandia recently to discuss advanced weapons concepts and his perspectives of future US nuclear weapons needs with the Weapon System Center 2010 study team. Participating in discussions with Teller were the four members of the team: David Plummer (2643, hands on knee), Shawn Kerr (9811, end of table), Kent Meeks (5166, Shawn's immediate left), and Bill Tedeschi (not shown, who invited Teller to the Labs). Among others who attended the session as observers were (from left, background) David Williams (2010), William Nickell (5100), and Frank Dean (5153, head just visible behind Kent). Teller, Director Emeritus of Lawrence Livermore National Lab, is a fellow of Stanford University's Hoover Institute.

Windshields

(Continued from page 1)

basic concept more than four years ago in response to what he perceived as two of the biggest problems in the glass shipping industry: glass breakage and the environmental issues associated with crate disposal.

Dago asked his partner and nephew, IGD Vice President Diego Ruiz, to design and develop the crate. "The glass industry now has a three percent breakage allowance," says Diego. "We hope to reduce that to one percent, and maybe even to half that."

There's testing and there's testing

In early 1993, Diego drew up plans for the crate and had a local company build a prototype. Then he and an IGD crew subjected it to rigorous testing to "simulate" rough shipping conditions — they loaded the crate into a pickup truck and went "four-wheeling" on Albuquerque's West Mesa.

Although IGD's admittedly "home-style" testing regimen showed that the new crate reduced breakage (no windshields were broken during the jostling), it soon became clear that significant design improvements could come only from hard, quantified data about the crate's ability to withstand realistic shipping conditions.

Diego began to look outside for help. He first approached Technology Ventures Corporation (TVC), the nonprofit organization established by Lockheed Martin to move technology from the national labs to the marketplace. TVC referred him to Sandia's Technology Transfer and Commercialization Center 4200.

Working through the Small Business Initiative, IGD originally tapped the labs for short-term technical assistance. The project's potential, however, led IGD to seek an eight-month cooperative research and development agreement (CRADA) with Sandia, which was formal-

(Continued from preceding page)

early 1980s, was introduced to the DoD. Eventually, the WSV was developed for the US Air Force and became part of the Weapon Storage and Security System (WS³) now used in NATO countries.

The WS³ Working Group of the JTSMG is concerned primarily with validating security standards for the WS³ and with the security of the operations associated with the weapons stored in it. In conjunction with the working group, Sandians have supported USEUCOM and the JTSMG in both computer modeling and actual force-on-force exercises (simulating an adversary attack against defending forces) on the WS³.

★ Congratulations

To Sharon and Mark (1846) Phillips, a son, Joseph Henry, May 11.

To Carol (3535) and Toby Manzanara, a son, Tomás Charles, May 19.

To Michelle Mora and John German (12622), married in Las Vegas, Nev., June 3.



ized at a signing ceremony April 11.

Sandia's contribution to that CRADA comes primarily through the technical assistance of Dave Harding of Transportation Systems Dept. 6642, who is quantifying design constraints and performing stress analyses on the IGD crate.

Initially the Labs is conducting compression and bending tests to characterize the behavior of the recycled-plastic materials to be used in the crate. Other tests will subject the plastics to a variety of thermal, structural, and chemical environments.

Data from the tests later will form the basis for computer modeling, called finite element analysis, which predicts stresses on individual pieces of the crate in various design configurations and in normal and rough handling conditions.

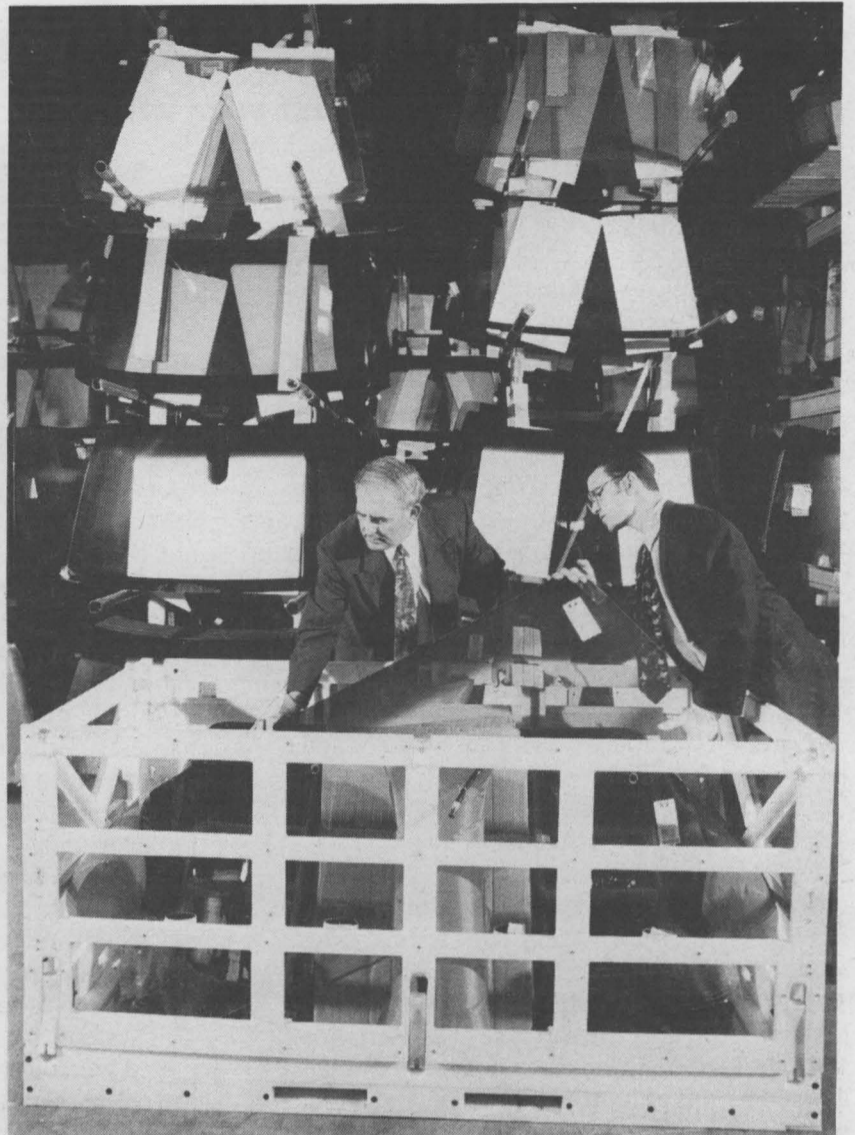
In the end, Sandia will recommend to IGD optimal configurations and sizes for certain "high-stress" structural elements, such as hinges and joints, that should lead to a sturdier final design. The recommendations also will take into account automated manipulation and other future handling considerations.

Protecting against shock, vibration

Dave says the project taps Sandia's years of experience designing and analyzing impact- and crash-resistant transport containers for radioactive materials, such as TRUPACT. (Sandia has helped develop and test TRUPACT, or transuranic package transport, for safely transporting transuranic waste to the WIPP site.)

"IGD had the glass-shipping experience but didn't know how to build the best transport container," he says. "We are going to make sure that the final container design can withstand the rough-handling environments associated with auto glass transportation."

Besides access to the Labs' transportation expertise, says Diego, an additional benefit of working with Sandia is the clout it gives IGD in presenting its container concept to potential customers and in obtaining capital funding for full-scale production.



A BETTER BASKET — Dago Ruiz (left), President of Interstate Glass Distributors, and his partner and nephew Diego Ruiz, IGD Vice President, remove windshields from the first prototype of IGD's stackable, collapsible, reusable, recyclable container made of recycled plastic, meant to hold some 30 automobile windshields as they are shipped across the country.

"Without Sandia's technical expertise and the credibility it has given us in dealing with manufacturers, I'm not sure we could have proceeded with this process," he says.

IGD's patent for the crate is pending. (See "Local crate plant could add 100 area jobs" below.)

He estimates the new crate could save the auto glass industry more than \$14 million annually by minimizing glass breakage and reducing storage, transportation, and disposal costs for suppliers, distributors, transporters, and warehousemen.

He admits he and his uncle initially had some misgivings about working with a big nuclear weapons lab like Sandia, but were surprised at the responsiveness and relative simplicity of the technology transfer process.

"We didn't want to go outside," he says. "We knew analysis would be costly, and our resources were limited. But there wasn't a lot of red tape. It was surprisingly easy to work with Sandia."

Local crate plant could add 100 area jobs

The crate development project between Sandia and Interstate Glass Distributors could lead to more than 100 new jobs in the Albuquerque area during the next few years, according to IGD President Dago Ruiz.

Already several major windshield manufacturers have indicated serious interest in using IGD's container system. If the new design is successful and glass manufacturers adopt the IGD container, Dago estimates that some 250,000 units will be manufactured within the first five years of production to fill the immediate needs of the auto glass industry. The flat glass industry repre-

sents an additional huge market for the IGD container, he adds.

IGD plans to manufacture the containers in Albuquerque, eventually creating an estimated 100 new jobs.

During the CRADA-signing ceremony April 11, Warren Siemens, Director of Technology Transfer and Commercialization Center 4200, called the agreement between Sandia and the small, minority-owned IGD "an ideal model of Sandia's regional economic development efforts. The work directly contributes to our goals of local job creation and diversity," he said.

Integrated Information Services spins intricate Web

Sandia Internal Web marks first year with new, enhanced applications

By Tammy Locke

Lab News Staff

In one short year, Sandia's Internal Web — born in Component Development & Engineering Support Division 2000 and developed by Integrated Information Services Division 13000 — has matured into a widely used, frequently accessed tool for many Sandians. More than half of Labs employees are now on-line to the Web, and the numbers are rapidly rising. And as these numbers grow, so do the number of applications Sandians can access to make their jobs easier.

Fran Current (13212), co-leader of Sandia's Enterprise-information Viewing Environment (EVE, or Internal Web) team, says more than 4,500 Sandians are now connected to Sandia's Internal Web, and new users are being added at an average rate of 250 each week.

The number of new and enhanced Web applications is expanding as well. Sandia's Internal Web opens to a homepage featuring ten icons and other hypertext options. (For hypertext link information, see "It's a World Wide 'Webolution'" in the March 31 *Lab News*.) One icon — Applications — takes the Internal Web user into an area called Applications and Reports. This area has recently been expanded and enhanced. And a newly installed corporate server will make launching some of these applications much easier.

Enhanced and future applications

New applications have been added and older applications enhanced on the Internal Web in the last few months. Some major contributors to these improvements are Jim Muntz (13911), Scott Rogers (13313), and Pat Milligan (13313).

The following applications can be accessed by calling up Sandia's Internal Web homepage, selecting the Applications button, and selecting options from the Administrative Applications Menu. New and enhanced options include:

Conference Room Scheduler. This new application replaces the old system of scheduling conferences through the Bldg. 891 VAX system. Pat Milligan says the new Web scheduler is easier to use. The scheduler is being used now for conferences scheduled on or after Aug. 1. Access to the scheduler is through the Administrative Applications Menu: select Scheduling/Calendar, then Conference Room Scheduler. If employees need to schedule a conference but are not attached to the Internal Web, Pat suggests they call the Corporate Computing Help Desk on 845-2243.

Employee quick queries. From the Administrative Applications Menu, Sandians can find the following information:

- **Phone book.** Provides co-worker information, searching by name, organization, building, mail stop, e-mail ID, job category, or by a combination of fields.

- **Vacation balances.** Shows how much vacation employees carried over and the amount of vacation they've used or accrued.

- **ES&H training.** Lists when Sandians completed ES&H courses and displays required corporate classes.

- **Property.** Provides property information by entering the property owner's organization, owner name, possessor name, property number, or a combination of fields.

- **Just-In-Time.** Shows orders employee placed as long ago as a few months before the current fiscal year. Jim Muntz, who created the quick queries, said this option is useful for reordering items or to see if an order was received in Shipping and Receiving.

- **Space Charge-back.** Searches by building number or department number. Displays all space charged to an organization, along with room numbers, organizations, type of space, and square footage of assigned space.

- **E-mail-enabled data access system.**

This application has been available for about a year through e-mail. A request for information is sent to a server, which looks for key words, queries a database, finds the data requested, and sends the data to the requester via e-mail. This system was simplified when it was moved to the Internal Web, says Scott

Rogers, project owner, who enhanced and built on to e-mail-enabled applications work done by Jim Muntz. Graphical access is much easier than the old e-mail method, says Scott.

E-mail-enabled queries have been added to the following subtopics of the Administrative Applications Menu: Financial, Human Resources, Just-In-Time, Property, Purchasing, and Travel. Also, under the Financial or Travel subtopic, an e-mail-enabled query is available for the Sandia Reimbursement/Vouchering System.

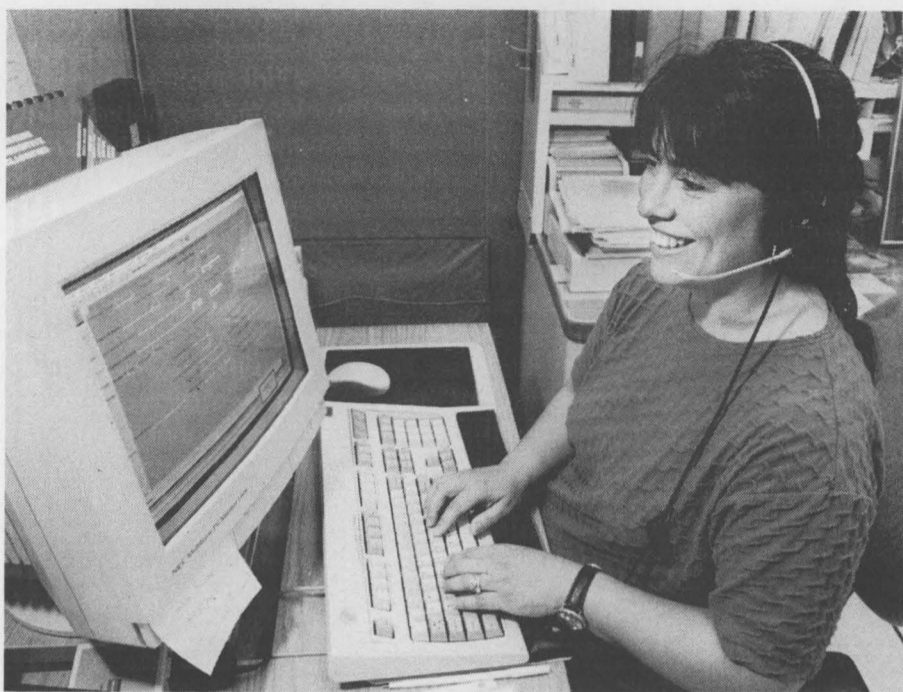
Financial Management Query. This application gives financial, costs, and full-time equivalent (FTE) information when either a case, charging organization, management code, or fund code is entered. Lois Lauer (13313), who provided the financial templates for this query, wants to expand this application if customers are interested. She encourages users to send feedback through the Corporate Computing Help Desk's e-mail link that appears at the end of the Financial Management Query opening screen.

Official Airline Guide. The Official Airline Guide (OAG), updated twice each month, will provide information such as flight departure and arrival times, flight numbers and durations, etc., for national and international airline flights. Car rental and hotel availability information is provided, too.

The OAG will be available when the corporate server has completed final tests and the Web user has installed the "helper application" to launch the new OAG application. The airline guide will be accessed from the Internal Web homepage by selecting Applications, Administrative Applications Menu, and Travel.

Official Sandia policy. Sandia currently has no official medium for presenting corporate policy. Eventually, official policy will be maintained on the Internal Web, says Dirk Dahlgren (12400), who is part of a group structuring this information, which may be available on the Web within a few months. When this happens, the Internal Web will become the official source for Sandia policy documentation.

Other Internal Web services. Rich Graham (2782) and Dirk Vanwestrienen (13411) have developed new services to help Web users find



ON DUTY at the Corporate Computer Help Desk, Susie Romero-Sosa of Computing Help Desk & Passwords Dept. 13412 assists a caller with a computer problem. Corporate Computer Help Desk analysts answer Sandia Internal Web questions and help callers with any computer concerns. The analysts receive about 36,000 calls annually and immediately solve 85 percent of callers' questions; the remaining 15 percent of callers are referred to other sources of help, including the recently organized CSU representatives. Susie and the six other Help Desk analysts can be reached on 845-2243.

the information they need. First is a "subscription service" — subscribers are notified by e-mail when changes are made to particular documents or when new issues of publications are put on the system. To subscribe to this service, select either the Communications or Manuals icon from the Sandia Internal Web homepage, then select Subscription Service. Rich says about 115 Sandians have subscribed to this service so far.

Rich and Dirk have also provided a search capability for the *Weekly Bulletin* and other frequently published news. To search current or past *Weekly Bulletin* issues, select Communications from the homepage, then *Weekly Bulletin*, Search *Weekly Bulletin*.

The *Weekly Bulletin*, recently put on-line at Sandia/New Mexico and maintained by Janet Carpenter (12622), has just gone on-line at Sandia/California, too. For information at Sandia/New Mexico, call Janet on 844-7841; at Sandia/California, call Public Affairs and Employee Communications Dept. 8502 on 294-2447.

New corporate server unveiled

A new corporate server is operational now, says Mike Pendley, Manager of Software & Integration Technologies Dept. 13212, to help Web users more easily access applications such as the Technical Library's new Horizon system.

The new server will also allow users to access other applications for the first time, for example, the Official Airline Guide.

Mike says the infrastructure for the new server is in place, and the server has been undergoing final tests. An easy, user-friendly interface is being developed so users can access the server at the press of a Web menu button.

To use the new server, Web users can install a "helper application" for the Internal Web browser, says Mike. This "helper application," which is software loaded on the user's desktop, will launch the Official Airline Guide, the Horizon system, and other applications. Final testing of this helper application should be completed by the time you read this *Lab News*. Directions will soon be appearing on the Internal Web to teach you how to install the

(Continued on next page)

(Continued from preceding page)

software yourself. If you would rather have someone else load the software, you can call your Customer Service Unit (CSU) representative. For questions about the new corporate server, call Mike on 844-8741 or Phil Georg (13212) on 844-3099.

The Internal Web proxy server, which Sandians started using last December, assists Internal Web users to easily access the External Web. The server, says Doug Brown, Manager of Computer Security Dept. 13221, has several other purposes: It keeps outsiders from accessing the Internal Web. It stores files accessed from the External Web in a temporary area, providing quicker access for anyone else who wants to see these files. And the proxy server filters certain types of potentially dangerous files, such as PostScript files (which could delete local files or carry a computer virus), from being directly accessible to the user.

The proxy server was set up and put into production by Randy Simons (13221).

Getting information on the Web

Any Sandia Web user interested in putting information on the Internal Web has several options. You can (1) take classes to learn to generate Web documents yourself, (2) give your document to the recently formed Web Services & Information Systems Training Dept. 13403 (or Sandia/California's Technical Communications Dept. 8535), which designs, generates, and manages information for those who want assistance, or (3) give your information to the Text and Graphics (TAG) Team (in CIM Lead Lab Dept. 2782), which loads information on the Web, then manages and updates docu-

ments for those who want assistance. In more detail, your options are:

Learn to load Internal Web documents yourself. Several classes are offered to assist those who want to learn to use the Web, then generate and load documents themselves. "Hands-On Web Browser Training" and "HTML [Hypertext Markup Language] Authoring and Conversion Training" will be offered throughout the summer. Both classes are also being taught at Sandia/California. For more information, Sandia/New Mexico users can call Tam Orth (13403) on 844-1430, or check the Sandia Internal Web homepage, which lists class schedules and descriptions under "Hot News." Sandia/California users can call John Larson (8525) on 294-3416 or Tracy Walker (8271) on 294-3550.

For "information provider training classes," which teach owners of bulletins or newsletters to organize, convert, and place their information on-line, call Rich Graham on 845-9575 at Sandia/New Mexico. At Sandia/California, call Pat Leary (8920) on 294-2832. Rich and Pat teach owners to manage their own Web information, so in time "our influence becomes minimal," says Rich.

Let Web Services groups manage Web documents for you. The new Web Services & Information Systems Training Dept. 13403 offers information services to Sandians who want to publish information on the Internal Web and would rather work with a service provider than create and manage HTML documents themselves. Dept. 13403 offers:

- *One-on-one homepage design service.* Dept. 13403 will help you design, develop, and maintain your homepage.

- *Sandia Internal Web information manage-*

ment service. Jennie Negin, Dept. 13403 Manager, says one of her tasks is to ensure information on the Internal Web really helps Sandians do their jobs better. Producing homepages and documents to have the "appropriate common look and feel" is part of this task, says Jennie. To help the user, the team wants the "look and feel" of Internal Web information to be predictable. "We focus on managing the information," Jennie says. "No one wants to read *War and Peace* on the screen. We want to learn how people are [using the Web] and give them what they want, improving the Web as we go."

For more information, call Jennie on 844-4653 or Rocky Corley (13403) on 844-2779.

At Sandia/California, a six-week-old service provided by Technical Communications Dept. 8535 offers basically the same services that Jennie Negin's group offers at Sandia/New Mexico. Bob Tucker, Dept. 8535 Manager, says his department formats homepages, reviews documents before they are put on the External (and often Internal) Web, and assists users to get their information converted and put onto the Internal Web. He says there's "a whole lot of interest" in getting documents on the Web at Sandia/California and looks forward to the day when most Sandia documents are on the Web instead of on bookshelves.

Let TAG Team Service Center load and maintain your Web documents. Sandia's CIM Lead Lab Dept. 2782's TAG team provides homepage development and Internal Web document cleanup and conversion services. The team mainly works with corporate and specification documents and manuals, but has also put brochures on the Web. The TAG Team creates forms that can be completed then forwarded to a database. Kent Shelton (2782) says many Sandians are experimenting with loading their own data onto the Internal Web right now, but he predicts that in time they will want someone else to maintain and update their documents, which is what his Service Center offers. For more information, call Kent on 844-6488.

Help for Web users — Customer Service Units and the Corporate Help Desk

Employees not yet attached to the Sandia Internal Web, but who would like to be, can call the Customer Service Unit (CSU) representative in their geographic area. If you don't know who your CSU representative is, call the Corporate Computing Help Desk on 845-2243. Mike Finley (13412), project leader at the Help Desk, says the analysts at the desk help Sandians identify their CSU representative. (If you are already on the Internal Web and want to identify your CSU, from the Internal Web homepage, select Services, Customer Service Unit (CSU), select the area you are in, then your building number.)

The CSU team is a group of mutually interdependent people from Division 13000, local area network (LAN) managers, and contract employees who are trying to change Sandians' thinking — to get desktop computer users to pull together as one community rather than tackling their problems individually, says Jim Hamilton, Manager of Computing Help Desk & Passwords Dept. 13412.

"CSUs provide a brand new way to do business to the extent that we're providing coherence and thoughtfulness in the way we're organizing our service people," says Herb Pitts, Director of Information Services Center 13400. Herb says the concept of CSUs is "catching on" in other companies, at IBM and Digital Equipment Corp., for example. Providing CSUs organizes and structures service so people will have a single place to go for computer help, says Herb.

The CSU service was established about six months ago by Chief Information Officer Mike Eaton (13100) to assist in developing the corporate-wide network. Some geographic areas are not yet represented by a

CSU, but the CSU team will do whatever it can to accommodate these areas until more CSUs are established, says Jim Hamilton. Ten CSU project managers are now in place.

Before the Internal Web was established, many local networks had been set up at Sandia, creating problems in communicating between them. Thanks to CSUs' efforts, users can reliably access corporate information, the World Wide Web, and e-mail. About 75 e-mail post offices at Sandia are being consolidated into 10 post offices, improving network reliability, says Jim. Group support is provided, meaning your CSU can go on vacation and you can still get help from a CSU representative backup. Departmental operating costs have lowered, says Jim, because Sandians are now able to devote their time to their jobs, not wasting time addressing computer problems. And solutions are shared Labs-wide instead of being repeatedly invented by autonomous units.

The Corporate Computing Help Desk, active for about four years, answers questions Sandians have about using the Internal Web and any other computer matters. The Help Desk's seven analysts receive an average of 16 calls every hour, about 36,000 calls each year, says Jim. "Eighty-five percent of our calls are solved at the time of the call, and the remaining 15 percent we direct to CSUs and other sources for help," he says.

Users can also get help at the bottoms of many Internal Web homepages by selecting the highlighted text "Corporate Computer Help Desk" (some older screens may still say "Central Computer Help Desk"). Selecting this text provides a direct link to the Help Desk through e-mail.

this month in the past...



40 years ago...At the Nevada Test Site, giant camera lenses and special cameras, commonly used to produce slow-motion special effects for Hollywood films, focused on a nuclear device dropped from an airplane more than 30,000 feet overhead. As the frames of the film were exposed to the nuclear blast, electrical impulses were simultaneously transmitted to a timing device, accurately fixing the shock wave in space and time. The cameras, never before used in this context, helped evaluate the speed, position, pattern, and other data on nuclear blast shock wave movement.

30 years ago...In 1965, Sandia's Public Information Division received this letter from a Page, Ariz., boy, whose thirst for rocket knowledge far surpassed his spelling and grammar skills: "I'm in forth grade me and my freind are studying rockets and How they work we made our own rocket and flew it. And if you could please send me some informatoin on some rockets, space capsules. We used alchole and air it went out of sight but thene we seen the parachute. so please send some informatiom on rockets, Thank you."

Sandia touts diversity role, 'inclusiveness' at Executive Forum

A culture of inclusiveness is not just the right thing to do, it's a basic business necessity, Sandia President Al Narath said last week in kicking off the 5th Executive Forum on Diversity. Diversity is a "self-evident need" that shouldn't be confused with affirmative action, Al said.

"Diversity is a hard-line, bottom-line issue," Al said. With an increasingly diverse society and workforce, he said, "we must find ways to bring out the best in each employee. It's absolutely essential."

Executive VP Jim Tegnalia reviewed progress in diversity leadership at Sandia in five focus areas — Sandia's internal programs, technology transfer, subcontracting, education outreach, and communicating with the community.

Jim outlined Sandia's Diversity Champions program, in which 344 Sandians, including most VPs and Directors, underwent training last year and have become "advocates" for diversity and inclusion with the Labs. They're now spreading that advocacy to others. Jim also said Sandia intends next to begin developing "diversity partnerships" with other businesses in the area.

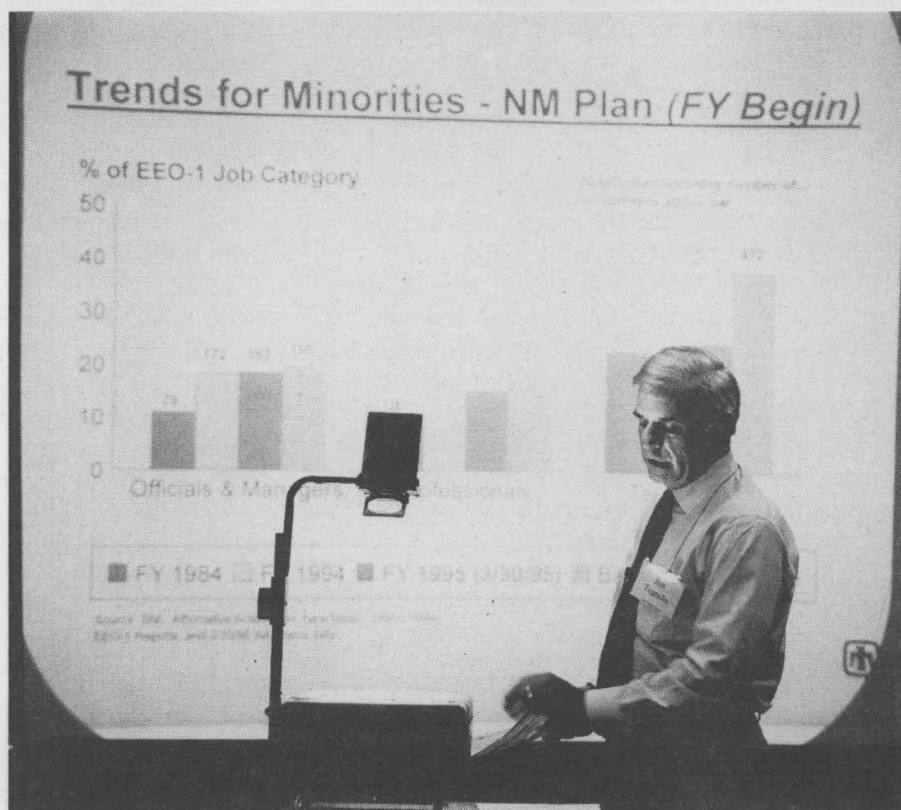
The forum, June 15 at the Holiday Inn Pyramid, was attended by Sandians and executives of companies and organizations from throughout New Mexico, including Public Service Company of New Mexico, Intel Corp., University of New Mexico, Los Alamos National Laboratory, and New Mexico State University.

The forum had two goals: to present progress reports on key results in diversity leadership at Sandia, and to demonstrate how corporate goals, diversity goals, and community partnerships can be linked in a strategy of diversity leadership.

Between their two opening talks, Al and Jim received for Sandia an award for the Labs' efforts on behalf of Project Uplift, the action arm of the Albuquerque-based National Institute for Professional Development (NIPD). The award recognizes Sandia's leadership in partnering with industry in Project

Uplift's efforts to encourage more young people to be interested in possible careers in science. The Institute's key mission is to develop a highly trained and diverse workforce for the

next century's science and technology-based marketplace. Henry J. Casso, President and Executive Director of NIPD, presented the award.



DIVERSIFYING THE WORKPLACE — Executive VP Jim Tegnalia, at last week's Executive Forum on Diversity, reports on Sandia's progress over the past 10 years in increasing the representation of minorities at the Labs.

(Photo by Randy Montoya)



UPLIFTING AWARD — Henry J. Casso (far left), President of the National Institute for Professional Development, presents a plaque to Sandia for its efforts in aid of Project Uplift's efforts to encourage young people, particularly minorities, to become interested in science. Accepting are, from left, Sandia President Al Narath; Paul Shoemaker, Manager of Corporate Planning Dept. 4514; and Executive VP Jim Tegnalia.



RATLER ROUSES REGARD of middle- and high-school students who attended the Science, Engineering, and Technology Career Expo XII at the Albuquerque Convention Center. Ray Byrne's (9616, left) and Dan Puetz's (9616, right) demonstration of the Robotic All Terrain Lunar Exploration Rover (RATLER) was one of the more than 20 Sandia exhibits at the Expo, which drew more than 3,000 students. Sandia participated as part of Project Uplift.

Feedback

Q: "Time card fraud" crosses my mind every time I have to fill out my time card. Sandians spend a lot of time doing things that are not directly related to the cases on which they work. Such activities include division, directorate, and department informational and training meetings. Colloquia, president's quarterly meetings, and various in-hours classes also qualify. My favorite is proposal writing for projects that, we hope, will eventually provide us with interesting work and funds. Preparing view-graphs for the boss to present at a technical meeting or responding to ES&H questionnaires fall into this category. When will Sandia management recognize this "ethics dilemma" and correct the problem?

A: When employees sign any document, they affirm that they have read and understood and can attest to the accuracy of that which they have signed. In the case of the time card, their signature is their legal bond that they spent, at a

minimum, the amount of time indicated on each case number written on that document.

Our time cards serve two purposes: They (1) document time worked for pay purposes and (2) document where the time was worked for cost allocation purposes. By signing or initialing time cards for Sandians assigned to their organizations (including their own), department managers, directors, and above certify that the time charges are accurate and approve committing expenditure of funds from those case numbers. Management considers time card fraud a very serious offense. During the past three years, 14 employees have been released due to time card irregularities.

Since department managers, directors, and above are accountable to guarantee adequate funds are available to cover work identified by specific case numbers, it is they who must distribute work to be performed according to both requirements and funds availability (i.e. they must tell employees in their organizations how to allocate their time on the job). That means

employees must pre-arrange (and get approval for) their work schedules with their supervisors and log their time accordingly.

Certain conventions exist that describe which categories of efforts should be charged against center support, program direction, etc. Your question has been raised by others and, accordingly, the Business Management and CFO Division is developing a communication that addresses the rules of time card marking and the importance of careful understanding and scrutiny of all documents that are signed by a Sandian.

Supervisors must not arrange case numbers on time cards after the fact to satisfy budget or other organizational requirements and then ask their employees to verify by signing such a card. Such an arrangement clearly forces employees to falsify their time cards in clear violation of our Code of Ethics and Standards of Conduct. Your signature is your word; your word is your bond. If the card does not reflect the appropriate time and case number, I would not sign it.

Jack Dickey (12700)

Futuristic Sandia video wins big international award

Visual Communications' video on advanced manufacturing honored

Oscar Night for Myra Edaburn and Regina Valenzuela (both of Visual Communications Dept. 12614) wasn't accompanied by limousines, tuxedos, and fanfare. Instead, a simple white envelope via the US Postal Service brought them the news that one of their video productions won an international award.

Myra and Regina make movies, though not the kind you enjoy with a tub of popcorn and a box of Junior Mints. As members of Sandia's award-winning Visual Communications team (see "Visual Communications team collecting awards"), they work on everything from training videos to marketing movies. Recently, their production, "Advanced Rapid Manufacturing: The Vision," was selected to receive the National Association of Manufacturers (NAM) award for the audio visual production that best represents the US manufacturing industry, at the US International Film and Video Festival. The competition is one of the world's largest that specifically honors business, television, and industrial productions. This year's festival drew 1,500 entries from 27 countries, with winners representing 15 countries.

NAM Assistant Vice President Jean Ellen Wilson, who presented the award to Sandia, says, "The production receiving this year's NAM award conveys a message important to every one of our member companies. That message is: If you think you've seen rapid change in the last decade, watch for the fast-forward technology of the near future. We cannot afford lag-time in applied research that could put us generations behind our competition."

Arlan Andrews, Manager of Advanced Man-

ufacturing Initiatives Dept. 2902, accepted the award for the video in Chicago on June 1. "This is a very prestigious international award, and it's an honor to have Sandia recognized in this way," he says. "The Visual Communications team put together a great video that helped coalesce the vision statement for the Advanced Rapid Manufacturing Consortium (ARMaC)."

The consortium is a group of US manufacturers and researchers working together to promote rapid manufacturing technology.

Arlan approached the Visual Communications team after seeing a video they did for the Galvin Committee, and asked if they could do a video for the group.

The team based the video on an article about rapid manufacturing Arlan had written for a science fiction magazine. "We tried to mimic the tone of that article in our video — slick, futuristic, high-tech — while marketing Sandia's capabilities in these areas," Regina says. "We all worked hard to capitalize on our strengths to make this an effective production."

The video features a computer animation of a flower vase that grows out of thin air and high-tech virtual reality images zipping across the screen. Visual Communications Manager Judy Hubbard says the production is unique because it represents one of the team's first collaborative efforts, an approach they have taken frequently since then.

"I think the group teamed very effectively on this project, focusing on individual



VIDEO WIZARDS — Regina Valenzuela (standing) and Myra Edaburn edit a film at the Visual Communications editing station. Their production, "Advanced Rapid Manufacturing: The Vision," received the National Association of Manufacturers (NAM) award for the audio visual production that best represents the US manufacturing industry, at the 1995 US International Film and Video Festival.

strengths and working together," she says. "I'm proud of their accomplishments."

Regina edited the video and Myra was the video's script writer. Robert Gardner (12614) and Dale Green (contractor) were the videographers, and John Bell (12616) did the computer animation for the project.

"I think the awards we've won recently highlight something I've known all along — that we've got a bunch of very talented communicators working in this organization," Judy says. "Our expertise is in communication. We have state-of-the-art tools and a professional staff, and we're at the disposal of every department at the Labs. We can market a group's products and capabilities very effectively."

Arlan agrees. "This video has been the foundation of ARMaC's funding recruitment effort," he says. "This award has raised our visibility and given us some prime networking opportunities. We couldn't have asked for a more positive response." — Mary Hatheway

Visual Communications team collecting awards

Sandia's Visual Communications team has received several international awards for video productions this year, including:

- The US International Film and Video Festival: "Advanced Rapid Manufacturing: The Vision" won the National Association of Manufacturers award for the audio visual production that best represents the US manufacturing industry (see story above). It also won a third place creative excellence award in the "Manufacturing, Engineering, Industrial and Technical Processes" category. "Microelectronics and Photonics at Sandia National Laboratories" was awarded a third place creative excellence award in the category of "Direction." Dave Sparks (12614) was the director.

- The Association of Visual Communicators International CINDY Competition: "Jupiter Impact Update" won a Silver award, the highest award given in the "technical information report/scientific research" category. The video was created by Myra Edaburn and Regina Valenzuela, with animation by John Bell. Mark Boslough and Dave Crawford (both of Experimental Physics Impact Dept. 1433) also worked on the video.

- International Television Association (ITVA) Video Festival: "Sandia National Laboratories: A Sampler on CD ROM" won a bronze award in the "Interactive Video" category. The multimedia product was created by Bob McInteer (12614) and Mona Aragon (12616).

- The Association for Multi-media International, Inc.: "Advanced Rapid Manufacturing: The Vision" is a finalist in the AMI Festival, the world's largest competition for all forms of presentation multimedia.

Three Adventures in Supercomputing teams from New Mexico are off to Washington

Three winning computational science teams from New Mexico high schools are off to Washington this weekend for national competition.

The three New Mexico teams were selected from among more than 100 computational science projects by middle and high school students throughout New Mexico at an exhibition May 3 at Alamogordo High School in Alamogordo. The exhibition was part of the DOE-funded Adventures in Supercomputing program. In the expo some 350 participating students displayed projects and met other students involved in computational science from across New Mexico.

Fred Howes, program manager in mathematical, information, and computational sciences at DOE headquarters, was featured speaker at the Expo Awards Ceremony in Alamogordo. Representatives from the offices of US Senators Jeff Bingaman and Pete Domenici and US Representative Joe Skeen also participated, along with two New Mexico state representatives. Other attendees included New Mexico State Department of Education officials, superintendents and principals from the various Adventures in Supercomputing schools, local school board

members, and parents and teachers.

The 25 volunteer project judges came from Sandia, New Mexico State University, Alamogordo Branch Community College, University of New Mexico, Sunspot Observatory, the Space Center in Alamogordo, and Holloman Air Force Base.

The top three projects were "A two-dimensional model of a multicellular spheroid tumor and its microenvironment," Pecos High School; "A statistical analysis of MD5," Highland High School; and "Computer modeling of evolution in a simulated environment," Albuquerque High School.

These three teams and their teachers will participate in the National Adventures in Supercomputing Expo June 26-27 in Washington. Martha Krebs, Director of the Office of Energy Research at DOE headquarters, will be the featured speaker.

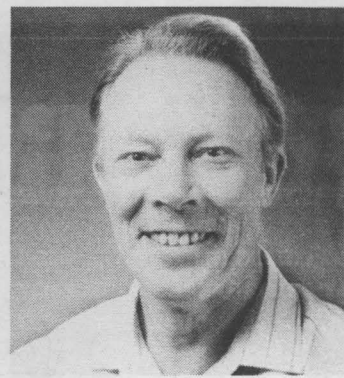
Adventures in Supercomputing is a five-state DOE program, administered in New Mexico by Sandia. Dick Allen (1422) serves as the program director for New Mexico, assisted by contractor Jill Snyder, a teacher at Albuquerque High School.

Mileposts

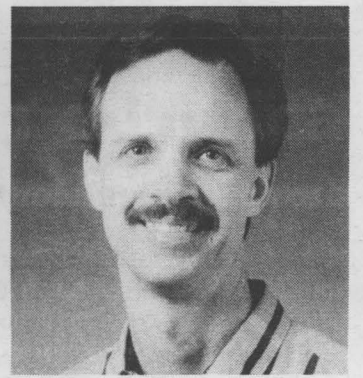
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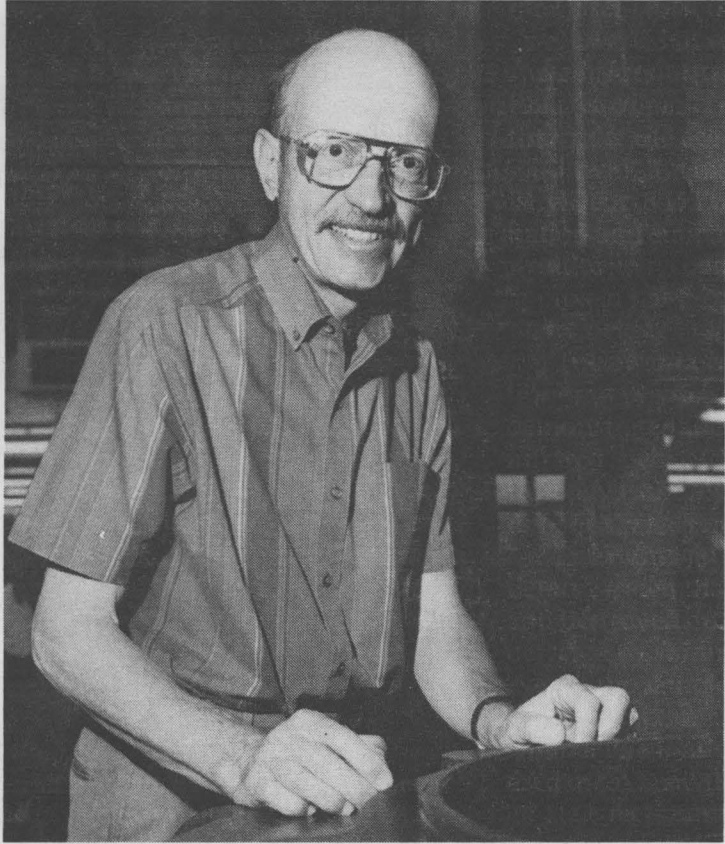
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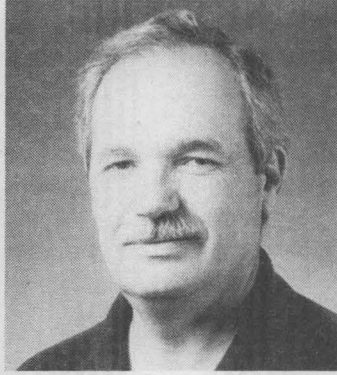
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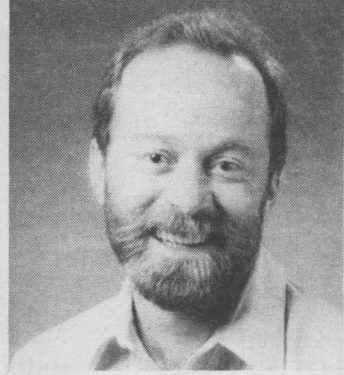
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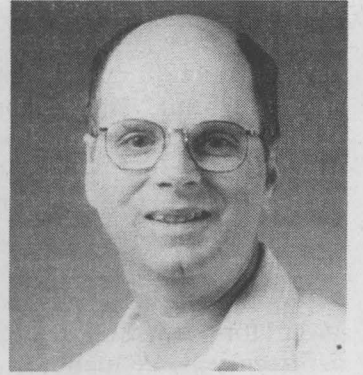
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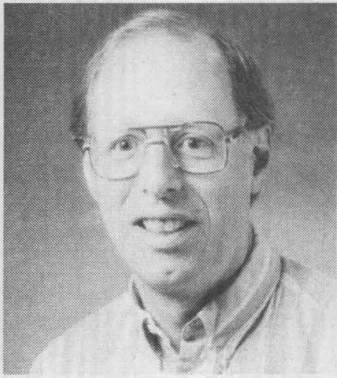
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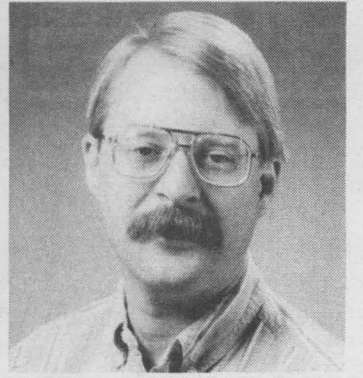
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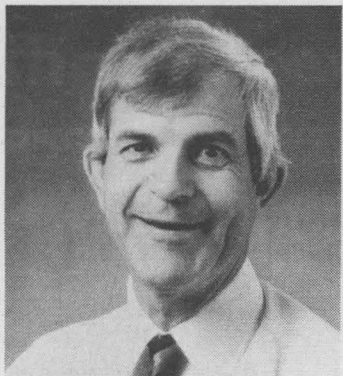
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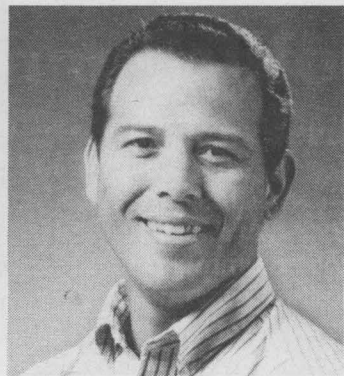
Jaye Bullington 20
5913



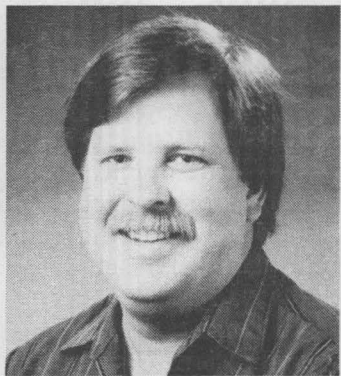
James Vanderburg 15
9813



Paul Beck 30
9211



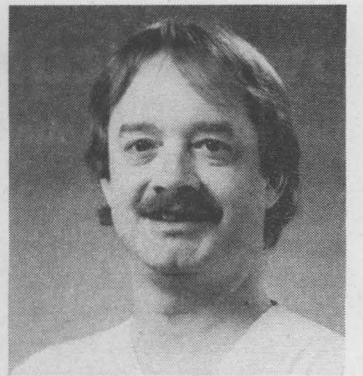
John Russell 15
5932



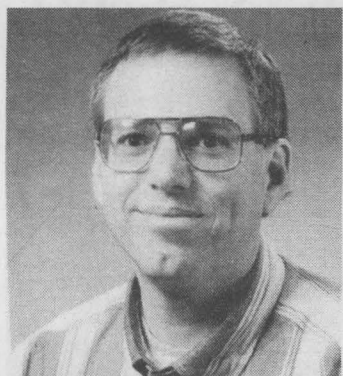
Larry Miller 15
5849



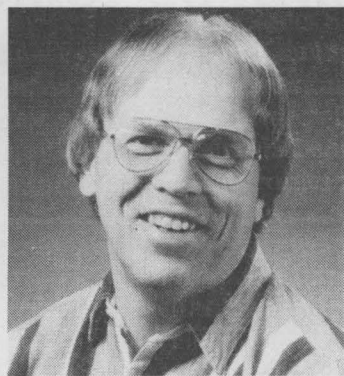
Marilynn Barr 15
13110



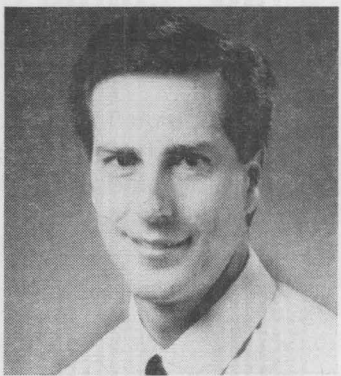
Mark Greenslete 15
5514



Larry Warne 15
2753



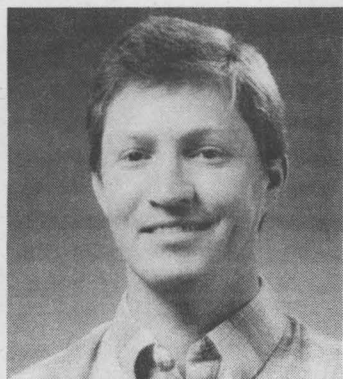
Mark Harrington 15
6212



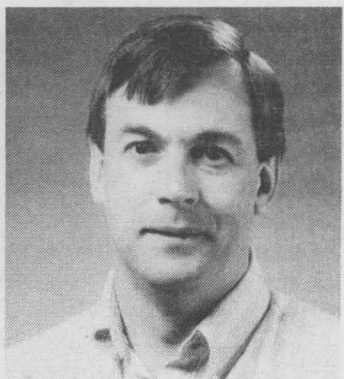
Perry D'Antonio 15
12324



Arthur Hardeman 30
10204



Roger Woodrum 15
2343



Timothy Spears 15
9215



Ernest C. Philanthrope 47
ECP

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

MISCELLANEOUS

MIXER/AMP, Sunn Concert, 8-channel, 1/4-in., or XLR, 300W, been around but in good shape, \$300. Letz, 293-4525.

SPACE HEATER, Salamander, kerosene, 9-gallon, 4-amp., Reddy Mark 75 Deluxe W thermostat, \$100. Ely, 281-0330, evenings before 9 p.m.

TOW DOLLY, 2-wheel, \$1,000 OBO. Portlock, 299-3240.

USED SWAMP COOLER, w/stat; garage doors; train set. Garcia, 299-7803.

BIKE TRAILER/JOGGING STROLLER, fits 2 children, \$125; baby monitor, \$20; Little Tykes Cozy Coupe, \$15; activity table, toys. Garcia, 344-3406.

GEARMOTOR, 1/4-hp, 30-rpm; 19-in. equipment rack, 21-in. high; Epson FX-86e printer, needs printhead motor, best offers. Ganter, 265-5007.

QUEEN-SIZE SLEEPER/COUCH, LaCrosse brand, floral print, \$60. Hardison, 271-2838.

WET SUITS, excellent, man's large, woman's size 10-14, used twice, \$40 ea.; two doors, \$25 ea. Smith, 298-5868.

COLOR TV, 19-in., \$55; electric chord organ, \$35; man's trench coat, 40 reg., \$40; leather golf bag, \$40. Klavetter, 299-4299.

SHOP MANUAL, for '90 Nissan Maxima, \$15. Rarrick, 296-2340.

KITTENS, free to animal-loving homes, SH black, black/white, LH gray, gray/white, frisky & adorable. Moore, 296-7203.

ROLEX, Oyster Speedking (1952), fits man or woman, \$550. McDonald, 884-4088.

THERAPEUTIC MASSAGE, \$40 gift certificate (won by daughter), \$20; white wicker day bed, \$40. Lanes, 856-6237.

GOLF CLUB SET, 3-PW, 1-5, putter bag w/stand, \$125 OBO; Kenwood cassette player, \$60 OBO. Montoya, 896-1211.

REFRIGERATOR/FREEZER, 12.3 cu. ft., \$25; 36-in. aluminum screen door & frame, \$15. Peterson, 883-8463.

UNOPENED SOFTWARE, CD ROM Screen Singer, children's nursery rhymes/music/graphics, \$15; Lotus 1-2-3, for Mac, w/audio training cassette, \$10. Lagasse, 298-0977.

WATERBED, king, custom, handcrafted, solid oak, walnut trim, w/headboard, drawers, mattress, heater, \$450. Tip-ton, 828-2538.

LAWN MOWER, Toro, Keylectric autostart, w/grass catcher & extra blades, just tuned up, \$120 OBO. Murphy, 892-0288.

AIR CONDITIONERS: used Arvin, good, clean, 4,500 side draft, \$60; 4,500 down draft, \$80; 6,500 down draft, \$85. Aguilar, 873-1952.

SOFAS, loveseat, & octagonal, square end tables, coffee table; Southwestern pool-table light fixture, good condition. Pena, 255-9654 or 898-2388.

AUSTRALIAN SHEPHERD/CHOW mix, to home w/very large yard, free, friendliest young dog, needs extra space to run, shots current. Salgado, 291-9460.

BEDROOM SUITE, 7-piece; conference table, 6 matching chairs; secretarial desk, all in mint condition. Elliott, 296-9005.

ANTIQUE QUEEN ANNE DINING CHAIRS, 6 ea., \$500; antique double drop-leaf end tables, \$80 ea. OBO. Bland, 265-6286.

SECOND CHANCE KEVLAR VEST, Level II, priced \$200 new, new price \$400 list. Montano, 898-9127.

WROUGHT-IRON WINDOWS & DOORS, different sizes, white and black. Sanchez, 873-4281 or 873-1751.

IN-DASH CD PLAYER, w/changer, Kenwood KDC 9000, w/10-disk changer, \$700 OBO. Sanchez, 899-5095, leave message.

KELVINATOR REFRIGERATOR, 18 cu. ft., frost-free, avocado, good condition, \$150; Brinkmann smoker, \$25. Meirans, 271-2313.

COMPUTER, Acros 486DX2-66, 8 MB RAM, 125 MB HDD, SVGA monitor, 2X CD, sound, modem, 9-pin printer, \$1,200. Weber, 275-3719.

BABY CRIB, Bassett, \$50; First Flight golf clubs, 2 through pitching wedge, bag, cart, \$125. Eaves, 268-0461.

UNPAINTED FURNITURE, 8-drawer dresser w/mirror, medium color finish, \$110. Carson, 899-2074.

BED, white, twin canopy, \$50; bedside table, \$20; study table 69 x 24 x 29, on-table bookcase, \$50. Beard, 821-0309.

CHIPPER/SHREDDER, Sears, 8-hp, like new, used one season, \$295. Weinbrecht, 281-7989.

FULL-SIZE BED, mattress, box spring, w/frame including head/footboards. Hardy, 897-9032.

MAN'S WATCH, Tag Heuer, two-tone diver's watch, original box & papers, mint condition, \$325. Hoke, 298-6731, after 6 p.m.

REFRIGERATOR, \$100; washer, \$100; 2 queen-sized futon couch/bed, \$150/\$100; dining table w/4 chairs, \$125. Altman, 254-0103.

SCOTT'S DROP SPREADER, 22-in. wide, MOD PF-1, \$22.50. Stang, 256-7793.

OAK DINING TABLE, w/leaf & 4 chairs, \$550; brass/glass vanity table, w/chair, \$45; twin bed, \$25. Harris, 822-0236.

BABY CRIB, mattress, car seat, high chair, clothes, toys, etc., \$300/all. Maestas, 299-6514.

GARAGE SALE, June 23-25, 7648 Lantern Rd NE, on Pennsylvania between Montgomery & Osuna. Tedesco, 888-1068.

NIKON LENSES, Nikor 135, F2.8, AI mount, \$70 OBO; Vivitar Series 1, flat field, 90-180 zoom, F4.5, must sell. Lenfest, 292-5780.

GOLF CLUBS, two sets of irons 3-PW: McGregor regular shafts; Tour Model II stiff shafts; \$70/set. Perrine, 293-1429.

GIUITAR, Washburn Model D-10, like new, excellent condition, w/new strings & case, \$220 OBO. Samara, 294-5734.

CHOICE BURIAL PLOTS, Sunset Memorial Park, Sandia Memory Gardens. Babcock, 299-3121, for more info, leave message.

LAWN MOWER, Mastercut, heavy-duty electric, 20-in. cut, rear hardcase bagger, works great, \$125. Hibray, 821-3455.

WASHER & DRYER, Sears Kenmore, excellent condition, \$150 pair; microwave oven, Tappan, excellent condition, \$50. Hill, 856-6423.

35MM CAMERA, plus 30-80mm & 80-200 lenses, auto-winder, flash, all \$400; antique iron scales, \$250. Eikelberg, 296-0899.

ANTIQUE WOODBURNING STOVE, \$300; solid wooden door, new w/hardware, \$30; TV/stereo antenna, w/wiring, \$15. Perez, 255-6246.

CONSOLE ORGAN, double-deck w/bench & music, excellent condition, \$1,400 new, asking \$400. Lloyd, 299-7153.

GAZEBO, 10-ft. enclosed, \$300; 2 vented skylights, \$200 ea.; collector's Chinese rubbing, black/gold, 30" x 50", \$600. Marmon, 298-0238.

COUCH, 7-1/2 ft., contemporary, white w/blue/mauve accents, excellent condition, \$200 OBO. Kane, 291-8576.

ROLLERBLADES, size 7-8, unisex, used twice, \$90. Ayers, 888-8922.

COMPUTER SPEAKERS, Labtec, amplified, \$10. Lorence, 275-3586.

ROLLAWAY BED, good condition, \$50. Clements, 828-2741.

KX-P1124 PRINTER, w/cut-sheet feeder, \$250; SKS, zytel stock, scope, \$300/trade; stereo rack, \$20. Mann, 268-3108.

MOVING SALE, side-by-side refrigerator, \$600; fireplace cast-iron insert, \$250, sofas, etc. Roseth, 856-7083.

DAY BED, w/trundle, comforter set, \$275; coffee table, \$50; booster seat, \$10; potty trainer, \$5. Southward, 281-7858.

ELECTRIC TYPEWRITER, Smith-Corona, w/case, \$40; baby bed mattress, like new, \$15; youth chair, \$5. Dickason, 299-8125.

WALNUT WOOD, rough cut, about 500 board ft., \$750 OBO. Young, 869-3384.

REFRIGERATOR, Sears Kenmore, 18 cu. ft., excellent condition, \$125. Petersen, 275-7467.

JVC DUAL STEREO CASSETTE DECK, H.S. dubbing, detachable 2-way speakers, 3-band graphic equalizer, CD hookup, \$75. Barton, 268-7349.

SERGER, Bernina 200 D (top of the line), 2 yrs. old, classes included, \$800 (new \$1,299). Blaine, 275-9002.

POODLES, male, 5 months old, need shots, white/light brown, 4 to choose from, \$150 ea. Hwang, 828-2261.

CAMERA, Pentax P3N; 28-70mm zoom lens, 60-300mm telephoto lens, flash, 2x teleconverter, \$400. Selleck, 254-9345.

CHINA, set of 12, w/extras and glassware, white w/green, w/pale yellow flowers, \$200 (new \$495). Malcomb, 294-6975.

INFANT/TODDLER CAR SEAT, Century, 5-point harness, removeable cloth seat cover, excellent condition, \$40. Lott, 856-5956.

SECRETARY; antique (1927), mahogany, 36"W x 79" H, \$675. Caskey, 298-6428.

SYLVANIA TV, Genesis speakers, \$150 ea.; HiFi VCR, \$100; 12-in. B&W Macintosh monitor, w/card, \$75 OBO. Hietala, 867-9577.

DESIGNER SPA, seats 5, 6-1/2' x 7', w/cover, 110V (220V possible), always indoors, \$1,800 firm. Giirven, 899-8573.

YAKIMA RACK SYSTEM, 1A raingutter towers (4), w/locks, windfairing, w/hardware, \$175 new, \$80 for all. Brooks, 275-0056.

DEADLINE: Friday noon before week of publication unless changed by holiday. MAIL to Dept. 12622, MS 0413, or FAX to 844-0645. You may also send ads by e-mail to Nancy Campanozzi (nrcampa@sandia.gov). Questions? Call Nancy on 844-7522.

Note: The number of ads received is steadily increasing; our space is not. To resolve this, we are now limiting people to one ad per issue. We will also strictly enforce the word limit and ask your help to keep ads as short as possible.

Ad Rules

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

NORDICTRACK, Model 505, w/wheels, \$250. Castillo, 899-1956.

HIDE-A-BED, La-Z-Boy, \$75; desk, sewing or study, \$75 OBO. Borgman, 299-6010.

TRUNDLE BED, narrow twin size, \$100; sewing machine, portable, Brother, like new, \$75. McNiel, 344-7694.

QUEEN SOFA/SLEEPER; desk; card table & chairs; Southwest lamp & matching hanging lamp. Brimble, 296-4130.

TRANSPORTATION

'60 BUICK, "Fast Times-Ridgemont High" car, 8-cyl., AC, PB, AT, good body, inoperative, \$450 OBO. Axness, 296-4691.

'91 CHEV. S-10 BLAZER, 4x4, charcoal gray, 29K miles, 1 owner, 4.3L V6, sport package, loaded. McConnell, 299-0061.

'85 FORD F-150, 4x4, AC, dual tanks, 90K miles, 5.0L, EFI, excellent mechanical condition. Wernicke, 298-4819.

'79 MERCEDES, 300SD, excellent condition, cream w/buckskin interior, sell or trade, \$5,200. Salazar, 281-0560.

'90 4-RUNNER SR5, V6, 5-spd., power sunroof, full power, new tires/wheels, AM/FM, excellent condition. Gallegos, 898-1839.

Because of the July 4 holiday, the deadline for classified ads for the July 7 Lab News is one day earlier than usual, 12 noon, Thursday, June 29.

'87 FORD MUSTANG GT, convertible, 5.0 HO, great shape, loaded, tinted windows, one owner. Anderson, 292-8432.

'85 CHEV. S10 BLAZER, 4x4, AC, 4-spd., V6, cruise, one owner, must see to appreciate, \$3,950. Mason, 883-6430.

'88 LINCOLN TOWN CAR, excellent condition, \$7,500. Sanchez, 877-9665 or 877-0526.

'94 TOYOTA TERCEL, 2-dr., 9K miles, \$8,500. Tabbara, 291-1255.

'87 HONDA CIVIC, 4-dr., sedan, AC, 96K miles, excellent gas mileage, new tires/battery, one owner, \$4,000 OBO. Martinez, 821-7467.

'94 GMC SONOMA SLS, 4x4, silver, V6, loaded, anti-lock brakes, extras, excellent, take over payments. Sais, 877-7370.

'85 CORVETTE, loaded, Bose, leather, black, 53K miles, garaged, maintenance log, \$14,000 OBO. Dybwad, 296-9047.

'71 OLDS CUTLASS, 2-dr., V8, AT, runs well, \$550 OBO. Roeschke, 266-8988.

'68 TRIUMPH GT6, new paint, interior & tires, strong engine, truly a classic, \$4,250. Kissam, 266-1671.

'69 OLDS CUTLASS 'S', convertible, AT, PS, PB, AC, 350 w/EFI, new interior, top, suspension, Blaupunkt stereo, \$6,000. Rima, 281-6918.

'87 TOYOTA 4-RUNNER, show truck, rebuilt engine & chrome, system & more, \$12,000 OBO. Ortiz, 898-2452 or 831-0672.

'83 FIREBIRD, V6, 5-spd., PS, PB, AM/FM cassette, T-roof, 88K miles, one owner, runs well, no rust/dents, \$1,900. Homicz, 294-1676.

'84 CHEV. PICKUP, 1/2-ton, Silverado, good condition, \$2,750. Beall, 869-2939.

'70 FIAT, convertible, Spyder, roll bar, good tires, collector's special; '79 Datsun kingcab truck, \$2,250. Roybal, 296-8493.

'76 CAMARO, 350-V8, AT, PS, PB, AC, 15K miles on new engine, 3.73 Posi-Trac rear, high-performance parts, \$2,500. Litts, 265-2063.

'65 GMC PICKUP, 1/2-ton, a 30-yr. wonder, asking \$1,200. Geck, 299-5095.

'83 MAZDA 626, coupe, 5-spd., 102K miles, \$500 OBO. Theriot, 828-0471.

'86 HYUNDAI EXCEL, 70K, AC, AM/FM/CD, red hatchback, tinted windows, new brakes, original owner, \$1,300. Winter, 292-5656.

'78 TOYOTA CRESSIDA, superb, 4-dr., AT, PS, PB, AC, 2.56L, 6-cyl., 76K miles, garaged, records, \$2,400 OBO. Boyd, 298-4712.

'72 BUICK CENTURION, 65K original miles, AT, AC, PS, PB, AM/FM cassette, well maintained, \$1,500. Lang, 884-5288.

'85 GMC, 4x4 stepside, 1/2-ton lift kit, rollbar, KU lights, rebuilt engine, \$5,000 negotiable. Widenhoefer, 281-6376.

'91 TOYOTA CAMRY DX, 48K miles, 5-spd., loaded, white/blue, warranty, superb condition, \$10,500 OBO. Ritchey, 299-7082.

'92 BUICK REGAL, Gran Sport sedan, 13K miles, 3,800 V6, ABS, fully loaded, one owner, adult driven, \$14,500. McIntosh, 292-3740.

'90 MAZDA MX-5 MIATA ROADSTER, pkg. A, white, immaculate, garaged, less than 9K miles, must see, \$13,500. Haushalter, 275-6772.

'93 NISSAN, king cab, 4x4, 4-cyl., 5-spd., H134 A/C, Blaupunkt AM/FM cassette w/booster, many extras, 45K miles, \$13,600. Bailey, 281-4766.

'85 MAZDA RX-7 GSL-SE, one owner, must sell, moving to 4WD country, 86K miles, \$4,200. Armstrong, 286-1128.

'93 DODGE INTREPID, AT, loaded, one owner, 5-yr. transferrable warranty, like new, 24K miles, \$15,500. Davidson, 821-0579.

'93 GMC YUKON, 4WD, all power, cruise, hitch, ABS, loaded, warranty, 38K miles, perfect condition, \$21,900. Kominek, 828-9875.

RECREATIONAL

GIRL'S BICYCLE, good condition, \$45. Sparks, 884-5644 or 880-0324.

'90 FIFTH WHEEL TRAILER, Resort by Fleetwood, fully self-contained, new tires, new battery, reversed springs, excellent condition, \$9,000. Martin, 296-8154.

'84 HONDA V65 MAGNA, 1100cc, water-cooled, gear-drive, disc brakes, 21K miles, \$2,700. Goodwin, 294-6702.

SUNFISH SAILBOAT, 14-ft., w/trailer, good condition. Shead, 839-9316.

'92 CT70N HONDA, automatic clutch, low mileage, excellent for commuting, near new condition, 140 mpg, \$750 OBO. Yip, 294-8124.

WOMAN'S BICYCLE, 2-spd. Lange, 856-1952.

'93 HONDA NIGHTHAWK 250, excellent condition, 2,600 miles, \$1,850. Hudson, 281-6978.

'94 KAWASAKI KX250 DIRT BIKE, powerful engine (lots of low end), runs well, good shape, \$3,300. York, 828-9505.

'94 POLARIS 400L ATV, 4WD, strong engine, extras, \$4,200. Drennan, 345-7195, ask for Mike, M-F, 8 a.m. - 5 p.m.

'73 CAMPER, Starcraft, new condition, 3-burner stove, sink, folding closet, \$1,900. Hanes, 292-6512.

MOUNTAIN BIKE, 22-in., '94 Cannondale M-800, 8-spd., grip shaft, Coda brakes, Coda cranks, \$750 OBO. Martinez, 255-9916.

'88 YAMAHA 4-WHEELER, 90cc, very low miles, \$800. Orth, 263-6060 (mobile).

MOUNTAIN/COMMUTER BIKE, Schwinn, 19-in., rack, fender & headlight, Shimano Deore 300lx, \$225. Norton, 266-3417.

'85 YAMAHA VIRAGO 700, low mileage, excellent condition, w/saddle bags, \$2,000. Arlowe, 254-9196.

'70 CAB-OVER CAMPER, 9-1/2 ft., 3-burner stove, 110V + 12V, private toilet/sink, icebox, stabilizer bar, \$1,685. Grenfell, 344-9355.

'88 SAMURAI SUZUKI, 4WD, AC, low mileage, excellent, \$2,700 OBO. Torrez, 298-4611 or 897-5083.

MOUNTAIN BIKE, Huffy, 24-in., excellent condition, used very little, paid over \$100, will sell for \$65. Langwell, 293-2728.

'92 TRAVEL TRAILER, Dutchman Classic, 24-ft., used twice, microwave, full bath, separate bedroom, awning, stereo, AC, \$13,000. Harrison, 833-1161.

TIMESHARE, Pagosa Springs, Colo., "doubleshare" white week 40 (first week in October), deeded property, all amenity resort, \$6,995. Cocain, 281-2282.

LUXURY TIMESHARE, Sedona, Arizona, one red week, use in Sedona or trade for rentals worldwide, \$6,000 OBO. Jordan, 856-6964.

REAL ESTATE

4-BDR ADOBE style home, Belen, 2 baths, 2 fireplaces, large screened porch, Manzano view, quiet neighborhood, 2 minutes to I-25, landscaped. Kercheval, 864-6549.

ONE ACRE LOT, wooded valley, perfect horse property, water system, ready to build, beautiful area, south Edgewood, \$22,000. Bullen, 281-0142.

5-BDR. FOOTHILLS HOME, 3,000 sq. ft., hardwood, spa-room, built-ins, over \$43,000 of upgrades, stunning/new. Henry, 296-1781.

3-BDR. MOBILE HOME, '87 Oakcreek DW, 1,456 sq. ft., 2 baths, washer/dryer, dishwasher, refrigerator, ceiling fans, \$32,000. Benavidez, 877-8059.

4-BDR. HOME, 2 baths, Sivage Thomas, 6 yrs. old, mountain/city views, 1,993 sq. ft., in Paradise Hills, \$157,500. Ives, 898-2522.

2-BDR. E. MOUNTAIN CHALET, 360-degree views, den, flagstone garden walls, easy access to North 14, \$122,000. Haas, 281-9820.

1-BDR., 1-1/2 baths, greatroom, loft, 1,470 sq. ft., on 3 acres, double carport, pond, locked access, minutes to Heron Lake, \$86,500. Smatana, 1-505-588-7723.

'69 MOBILE HOME, 12 x 50, nice, w/wood-burning stove, will move to desired location, \$5,000. Carlson, 888-4970.

3 BDR. HOME, 2 story, 2-1/2 baths, 1,500+ sq. ft., needs minor fixup, last time in the Lab News, \$120,000. Barnette, 292-5186, by appointment.

WANTED

ARTIFICIAL OR LARGE PLANTS, free, and framed prints, for clubhouse, will pick up. Wagner, 823-9323.

FEMALE AKC GERMAN SHORT-HAIRED POINTER, to breed w/my male AKC GSP, in exchange for pups from litter. Brown, 873-0402.

GIRL'S BEDROOM SET; gas dryer to buy/trade for my '91 Signature Electric. Orand, 833-2060.

ADULT BICYCLE, mechanically sound, 15-spd. minimum, w/cantilever brakes, mountain or touring type, will pay \$50-\$75. Schkade, 292-5126.

ANTIQUE GRAND PIANO, upright, good condition, dark hardwood, carvings preferable, ivory keys. Rockwell, 884-4206.

HOME, for beautiful calico cat, will buy food and pay vet bills. Huston, 265-1831, after noon.

CHILDREN'S GOLF CLUBS. Stromberg, 299-8591.

HOUSEMATE, female or male, 3-bdr. house, separate baths, 2-car garage, washer/dryer, fenced yard, \$300/mo. w/1/2 utilities. Ewen, 836-3563.

CB RADIO, 40-channel, w/SSB (side band), reasonably priced. Wall, 892-0215, nights.

ADDITIONAL HOUSES TO CLEAN, references available, reasonable rates. Kaufmann, 865-3272 or 292-9249, ask for Andrea.

VIDEOWRITER, Magnavox 350. Graham, 836-2752.

IBM COMPATIBLE, 386 or better, windows-capable computer, in good condition, for college student. Forster, 293-7231.

COMPUTERS, motherboards, monitors, memory, drives, must be windows compatible, for local church, tax deductible. Campbell, 296-5792.

PORTABLE BUILDING, or storage shed. Heald, 281-7885.

SHARE-A-RIDE

RIDE to Sandia Labs from 03 Manzano View Meadow Lakes, willing to pay. Pickens, 865-4256.

LOST & FOUND

FOUND: Silver chain bracelet, F Street entrance to parking lot, north of MO-171, on June 5. Rigdon, 844-3999.

Gary Beeler named VP of Production Div. 14000

Gary Beeler has been named Vice President of Production Division 14000.

Gary joined Sandia/California in 1964 as transfer system engineer in the Reservoir Development Division. He also worked as a project engineer on the W71 Spartan program. He was with the Systems Advanced Development Division from 1971 to 1974, working on advanced bomb concepts.

In 1974, Gary was promoted to Supervisor of the B77/B83 Systems Development Division, and was part of the management team responsible for mechanical design of weapon components and structural test programs.

He was promoted to Manager of the Electromechanical Components Department in Sandia/New Mexico in 1984. He transferred to the B90 Systems Development Department in 1989. He was instrumental in metal rolamite development for the B61-6/8 and B90.

In 1990, he became Acting Director of the Systems Development Center, overseeing weapon development, command and control, and system development. In 1991, he assumed the role of Director with responsibilities for research and development of energy components in the areas of explosives, batteries, neutron generators, switch tubes, and firing sets. Since December 1994, he has been Acting VP of Div. 14000, which is responsible for non-nuclear configuration and production capabilities



GARY BEELER

ties at Sandia that include neutron generators and medical isotopes.

Gary has a BS and an MS in mechanical engineering from the University of Washington.

Coronado Club

June 23, July 14 (Fridays) — Kids' bingo nights. Buffet, 5 p.m., with cartoons and movies. Bingo starts at 7 p.m. Free hot dog and soft drink for all kids playing bingo.

June 25 — Sunday brunch buffet, 10 a.m.-2 p.m. \$7.95 adult members, \$8.95 guests, \$2.95 for children 4 to 12, free for children 3 and under. Music for buffet by Bob Weiler and Los Gatos, 1-4 p.m.

June 29, July 6, 13, 20 — Thursday bingo nights. Card sales and buffet start at 5 p.m., early birds' bingo at 6:45 p.m.

July 4 (Tuesday) — Fourth of July Celebration, 11 a.m.-6 p.m. Low-cost buffet served noon-5 p.m. Children's games, 1-5 p.m. Pool open 11 a.m.-6 p.m. Admission free for C-Club members, guests \$2. Music for celebration by The Dukes of Albuquerque Orchestra, noon-2 p.m., and Bob Weiler and Los Gatos, 2-6 p.m.

July 7 — Friday night buffet/dance. \$7.95 all-you-can-eat buffet, 6-9 p.m. Music by Isleta Poorboys, 7-11 p.m.

July 9 — Sunday brunch buffet, 10 a.m.-2 p.m. \$7.95 adult members, \$8.95 guests, \$2.95 for children 4 to 12, free for children 3 and under. Music for buffet by So Rare, 1-4 p.m.

Sandia News Briefs

Businesses enter Sandia's new Supplier Database via diskette

Businesses that want to be players in the Sandia procurement process should get with the program — Sandia's new Supplier Database computer program. Sandia's Economic Impact and Supplier Relations Dept. 10203 has distributed more than 12,000 PC-compatible diskettes to businesses. The user-friendly, interactive diskettes prompt recipients to enter their business data in a format that can be directly imported into the Sandia Supplier Database, which is accessible to all Sandia buyers. Soliciting data from businesses via diskette is helping Sandia streamline its process of maintaining pertinent information about suppliers and prospective suppliers. Businesses interested in being added to the Sandia Supplier Database can receive an IBM PC-compatible registration diskette by calling database administrator Marilyn Cornell (10203) on 271-4242. Businesses without access to a PC-compatible computer can call Marilyn to make other arrangements.

Maureen Baca appointed examiner for 1995 Malcolm Baldrige National Quality Award

Maureen Baca, Manager of Corporate Quality Excellence Dept. 12909 and manager of Sandia's Corporate Quality Excellence Program, has been appointed by the director of the National Institute of Standards and Technology to the 1995 Board of Examiners of the Malcolm Baldrige National Quality Award. The award is offered annually to American companies that demonstrate the highest levels of quality management excellence. As an examiner, Maureen is responsible for reviewing and evaluating applications submitted by companies throughout the US. The board of examiners comprises 250 leading quality experts selected from industry, professional and trade organizations, universities, and government. Maureen is the only Baldrige examiner from New Mexico and the first from Sandia.

Send potential Sandia News Briefs to Lab News, Dept. 12622, MS 0413, fax 844-0645.

Sandia in the News

This is a periodic column listing a selection of recent print and broadcast news reports about Sandia. It is provided by Media Relations Dept. 12621 to give Sandians a sense of what is being said about Labs work in national and international media.

The New Mexico news in USA Today's "News from every State" mentioned workers being 90 percent finished with a project to remove depleted-uranium contamination from Sandia. The job is expected to be done by September.

Technology Transfer Business announced its 1995 top federal lab list, with Sandia and the National Institutes of Health tied for second place. First place went to NASA's Goodard Space Flight Center.

The Chicago Tribune wrote about Sandia's achievements in the manufacture of aerogels. Jeff Brinker (1846) was quoted about the

"tremendous" potential for aerogels in commercial applications, such as insulation. Sandia's accomplishments in aerogel production were also recounted in London's Daily Telegraph, and the story was picked up by the Xinhua News Agency.

In an article on virtual reality technologies, The Times (London) included discussion of Sandia's work developing the "feelie cyberglove." Ron Renzi (8111) explained how the glove works and some of its potential applications.

—Kathy Kuhlmann (12621)

Sympathy

To Peter Hamilton (13216) on the death of his father in Austin, Texas, May 26.

To Michael Hafich (1311) on the death of his wife, Michelle, in Albuquerque, June 3.



TERRY JORDAN-CULLER, Aerosciences and Fluid Dynamics Dept. 1515, was recently elected Vice President for Member Services for the American Institute of Aeronautics and Astronautics (AIAA). In this position, she serves on the AIAA Board of Directors. She began one-year service as Vice President-Elect on May 5, to be followed by a three-year term as the Vice President. As Vice President of Member Services, Terry will be responsible for the six geographical regions of the AIAA, including 65 local sections, and will guide the direction of regions, sections, members services, young members, and career enhancement activities and advise the board on policy matters relating to these activities. She will serve as chairperson of the Region and Section Activities Committee. Terry has been a flight dynamicist at Sandia for 14 years, working on re-entry vehicles and missile systems. AIAA is the nation's oldest and largest professional technical society in aeronautics and astronautics. Its primary purpose is to advance the art, science, and technology of aeronautics and astronautics and to promote the professionalism of those engaged in these pursuits. Its more than 33,000 members include engineers, scientists, managers, policy makers, educators, and affiliated aerospace professionals.