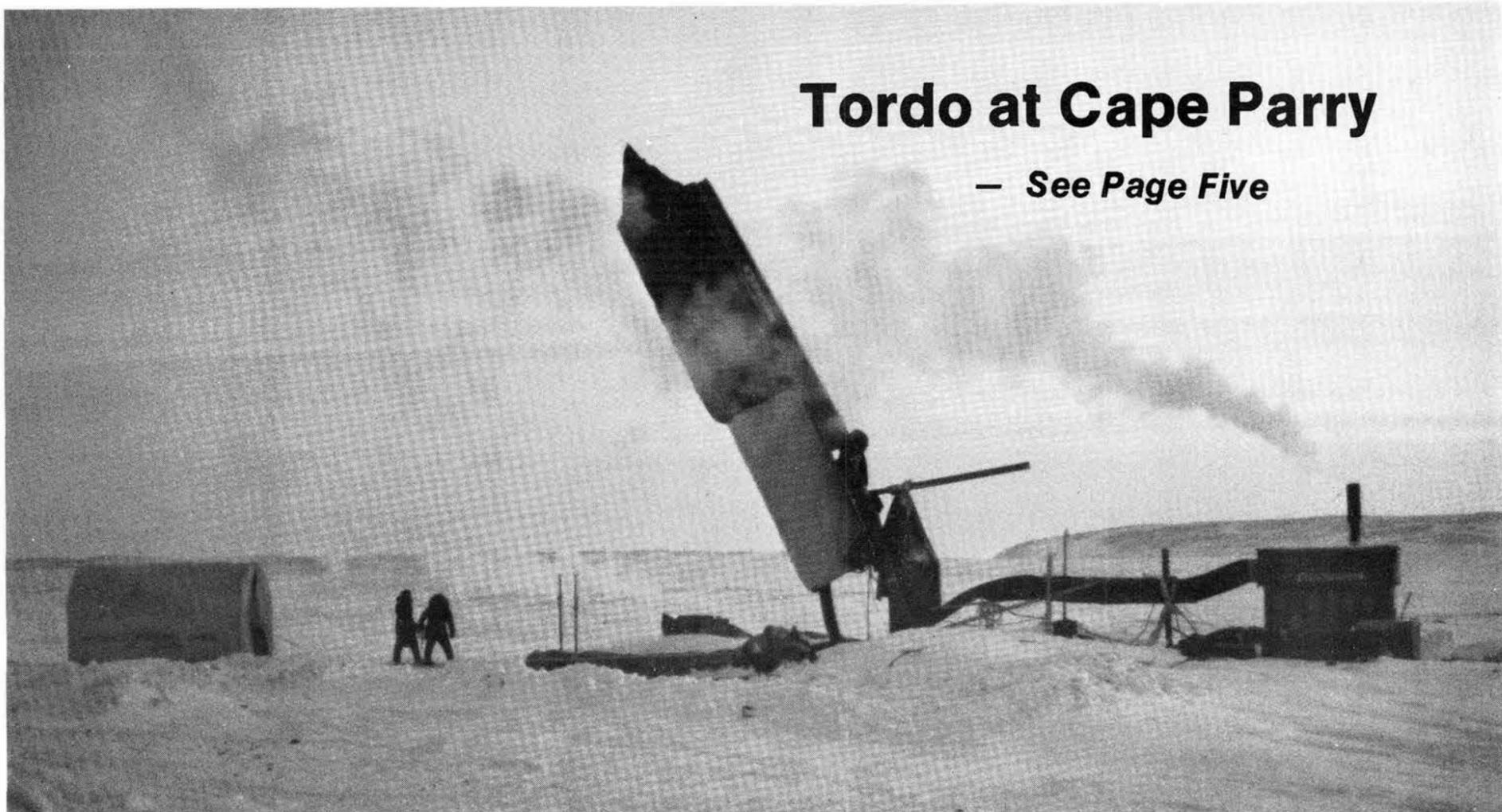


Tordo at Cape Parry

— See Page Five



LAB NEWS

VOL. 27, NO. 4

FEBRUARY 21, 1975

SANDIA LABORATORIES • ALBUQUERQUE NEW MEXICO • LIVERMORE CALIFORNIA • TONOPAH NEVADA



THE RAINS in Albuquerque fall mainly when groundbreaking ceremonies for solar energy complexes are scheduled. Senator Montoya presided last Friday, with President Sparks, as work got underway on the Labs' Turbine & Control building and the solar collector field. Earlier, the Senator addressed Sandians at a colloquium,

noting a trend in the federal budget to allocate more monies to the New Mexico laboratories. Afterwards, Senator Montoya had lunch and chatted with Sandians in the Tech Area cafeteria.

Take Note

Jack Wiesen, manager of Systems Research Department 4750, has just completed a busy year as chairman of the program committee for the 1975 Annual Reliability and Maintainability Symposium. Held in Washington, D.C. late last month, the three-day symposium — representing seven technical societies — consisted of 35 sessions and attracted 800 attendees. Jack has been named vice-general chairman for the 1976 symposium to be held next January in Las Vegas. His new responsibilities include membership on the long-range planning committee on technical programs and on the symposium board of directors.

Jack is Regional Director of ASQC Region 14 and a member of the board of directors of ASQC. He's been at the Labs for 24 years.

* * * *

Tomorrow three Sandians graduate as part-time officers in the Police Reserve program begun last fall by Albuquerque Police Department. Kent Parsons (2334), Bill Talley (1247), Ramon Villegas (1112) and 11 other Albuquerqueans have had 225 hours of evening and weekend training in the classroom and on the range. They then completed 80 hours of on-the-job training. Their reward: buying their own uniforms and sidearms, then spending their spare time as second officers in patrol cars, doing everything on the job that a full-time officer does. Congrats to all three.

* * * *

Reuben Montoya (9551) has been re-elected to a second six-year term on the Bernalillo Public School District board. "It's time-consuming," he says, "but I enjoy it — I'm interested in kids and education." He's currently vice-president of the board.

LAB NEWS doesn't normally take commercial notices, but we were intrigued by the novelty of a proposal described to us by a Joe Shaw who works at UNM. Joe has seven acres of land down in the South Valley off 2nd St. and, on the advice of the county agent, is setting up something called "Rent-a-Garden." He'll rent you a strip of land 250 feet long and two feet wide for the season for \$25. You plant it, he irrigates. Given the price of tomatoes, lettuce and other vegetables, it may be the way to go. You can get more details from Joe on 277-5813.

* * * *

Hey, Sandians (the club, in this case)! Meet March 3 at 7:30 p.m. at Marcia Miles' house at 12320 Pine Ridge NE to hear Mrs. Arthur Brice talk about "Houseplants" and mastermind the exchange of the cutting you brought to get inside the door. Need more info? Anita Solberg at 298-9248.

* * * *

Twin honors for two Sandians in the Electronic Technology Department — Charles Tapp (2430) and Dave Bushmire (2431) each won "best paper" awards in their respective categories at the National Electronic Packaging Conference in Los Angeles last week.

* * * *

Air Force Association Dinner Meeting is Feb. 26 at the KAFB-East Officers Club. Guest speaker is Lt. Col. James Van Syoc of the NM Air National Guard, the first unit in the country to be assigned the new A7D aircraft. Cocktails at 6:30, Mexican dinner at 7:30, guests welcome, \$5.25. Reservations: Ralph Wilson, 4-1346.



RECENTLY PROMOTED: (l to r), Fred Martinez (4151-1), Larry Garrison (4151-3), and Burl Duncan (4151).

Supervisory Appointments

FRED MARTINEZ to supervisor of Plant Accounting and Classification Section 4151-1, effective Feb. 1. After receiving his business degree from the University of Denver, Fred joined Sandia in May 1952 as an accountant in the cost division. For the past 10 years he has worked in the budget division. In 1966 Fred transferred to the budget group in Livermore but returned to SLA the following year.

During WWII Fred was a member of the U.S. Marine Corps, serving in the Pacific and in China. He is a native of the Red River Questa area and enjoys the camping and fishing that the area offers.

Fred, his wife Evangeline, and three of their children live at 4600 Hilltop NE.

* * * *

LARRY GARRISON to supervisor of General Accounting Section 4151-3, effective Feb. 1. Following graduation from the University of Oklahoma with a BA degree in accounting, Larry joined Sandia as a staff member in the auditing organization in February 1964. After three years in auditing, he worked with the budget division, transferred to a purchasing price and cost analysis group, then worked a year with a weapons programming organization and, for the past four years, has been back with budget division.

Larry's leisure time activities include camping, reading, woodworking, and working with stereo equipment. Larry, wife Lynn, and eight-year-old daughter Lacy live at 3407 Georgia NE.

* * * *

BURL DUNCAN to supervisor of Accounting Division 4151, effective Feb. 1. Since joining Sandia as an accounting clerk in May 1950, Burl has had assignments in almost all areas of the accounting department. He was made a section supervisor in 1956 in plant accounting and has been supervisor of the general accounting section since February 1968.

Following four years in the Army, where he served 26 months as an infantryman in the European Theater, Burl attended the University of Tennessee. He received a BS degree in business, with a major in accounting, a couple of months before coming to the Labs. Burl calls himself a "football nut" and, in fact, is a spectator sports fan. He and his wife Mary have two daughters and one grandchild and live at 1712 Georgia NE.

Events Calendar

Feb. 21 — Basketball, UNM vs Ariz. St., 7:30 p.m., UNM Arena.

Feb. 21-23 — Rio Grande Pottery & Sculpture Exposition, Convention Center.

Feb. 21-23 — Shrine Circus, evening performance on 21 & 23, matinees on 22 & 23, Tingley Coliseum.

Feb. 21-March 23 — "Accommodation" (Southwest premiere), Barn Dinner Theatre, 281-3338.

Feb. 22 — Ski Touring Club, Fenton Lake, call Curt, 294-3445.

Feb. 22 — Basketball, UNM vs Arizona, 7:30 p.m., UNM Arena.

Feb. 22 — Guild Theater, "Day Of Wrath," 265-0220.

Feb. 23 — UNM Dept. of Music, A. V. Wall, tenor, 4:00 p.m., Keller Hall UNM.

Feb. 23 — NM Mt. Club, South Sandia Peak, 12 miles, Western Skies, 8:00 a.m.

Feb. 23 — Ski Touring Club, Santa Barbara Camping Grounds, Gulf Mart, 7:30 a.m.

Feb. 24 — Grand Funk Railroad Concert, 8:00 p.m., Civic Auditorium.

Feb. 24 — Rodey Theater, UNM Faculty Recital, Leonard Felbery, Violinist & George Robert, Piano, 8:00 p.m.

Feb. 27 — Club Cultural Italiano, Viviana Negro, Lecture, "Italian Renaissance Art," Reception Center, 146 Quincy NE, 8:00 p.m.

Feb. 28 — Audubon Wildlife Film: "Animaux Sauvages" (Wild Animals), a study of animals in Africa, 7:30 p.m., Popejoy Hall.

Feb. 28 — Feather, Hand, Belt & Butterfly dances at Taos & San Juan Pueblos.

March 2 — NM Mt. Club, Penasco Springs, 6 miles, Gulf Mart, 8:00 a.m.

LAB NEWS

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&

lorena schneider reports on livermore

New Energy Uses for Hydrogen

SLL Performing Materials Study for ERDA

As the world's fossil fuel resources dwindle, hydrogen will become a basic fuel of the future, some scientists and engineers are predicting.

Hydrogen burns. And the oceans are full of hydrogen.

Hydrogen burns with high heating value, and the combustion product is water vapor free of polluting carbon-bearing gases.

Hydrogen is used today for many tasks — from welding to powering Apollo spacecraft. A number of experimental vehicles, including one at Los Alamos, are burning hydrogen in specially-adapted but conventional internal combustion engines.

With this potential as a pollution-free, recyclable, essentially limitless fuel, why isn't hydrogen in widespread use today?

There are a number of reasons. At present, hydrogen is produced either from natural gas or by a relatively inefficient electrolysis process.

Hydrogen is explosive over a wide range of air/hydrogen mixtures. Hydrogen makes many structural materials brittle, including many steels.

Jim Swisher, supervisor of SLL's Exploratory Materials Division 8313, is one of the scientists optimistic about the future of hydrogen in our economy. Jim wrote a proposal, funded last November by ERDA, to perform some basic materials work needed before hydrogen can see extensive use as a fuel.

Jim, with principal investigators Anton West (8314) and Steve Robinson (8313), is studying hydrogen compatibility of structural materials for energy storage and transmission applications, particularly pipelines and pressure vessels for high pressure hydrogen, and hydride storage vessels.

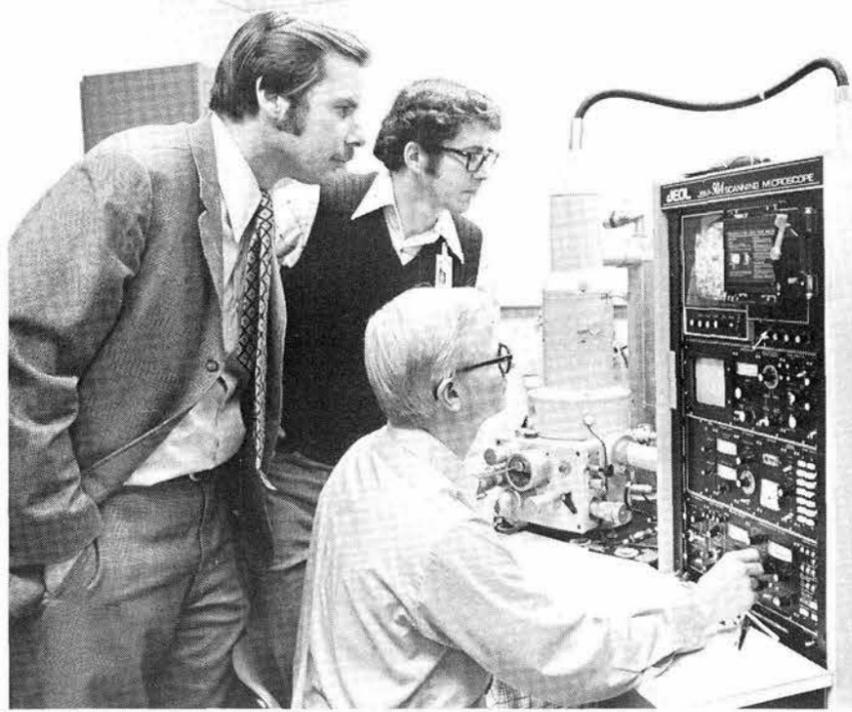
Some metals and alloys readily form hydrogen compounds, storing large volumes of the element in a passive state. Heating the hydride releases the hydrogen.

One of the areas under investigation is containers in which to store hydrides. In this project, Sandia is cooperating with Brookhaven National Laboratory. Purpose is to develop a method to use off-peak electrical energy from a power plant to form hydrogen from water and store the hydrogen in hydride compounds. During high demand periods, the hydrogen is released and converted back to electrical energy with a fuel cell or turbine. The container for the hydride, as in any hydrogen energy scheme, is fundamental to the success of the project. A material must be selected which is long-lived, not too expensive, and resistant to hydrogen embrittlement.

The staff in 8310 under Bob Meinken, with help from other Sandia organizations, is running hundreds of tests on structural materials at various temperatures and pressures in order to obtain engineering data for use by designers. They are methodically seeking that material, combination of materials, or material with protective coatings which will not be subject to hydrogen embrittlement.

"The materials area is extremely important in hydrogen technology," Jim says. "It is just as important as finding an economic method to produce hydrogen — which I think will be done eventually with a multi-step chemical process."

In addition to the testing of material specimens in hydrogen, the Sandians are developing a better understanding of the mechanics of hydrogen embrittlement. Extensive use is made of scanning and



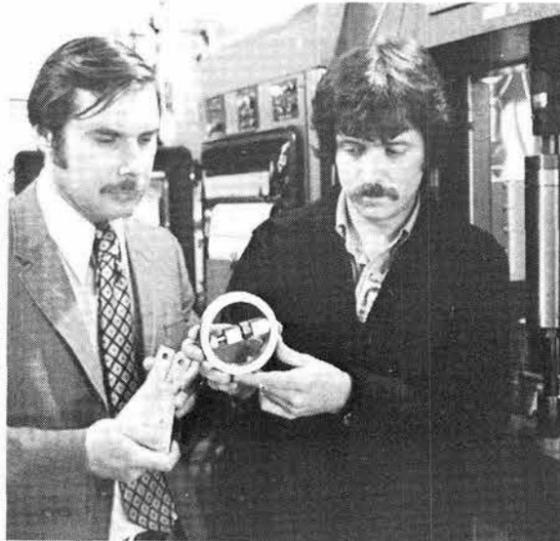
SCANNING ELECTRON MICROSCOPE reveals extent of hydrogen embrittlement of a test specimen. Jim Swisher and Steve Robinson (both 8313) study test results on video screen. Operator is Clarence Karfs (8312).

LIVERMORE NEWS

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LIVERMORE LABORATORIES

FEBRUARY 21, 1975



TEST CHAMBER IN AREA 8 is used to subject materials samples to hydrogen under high pressures and temperatures. Jim Swisher (8313), left, and Anton West (8314) examine steel ring which has also undergone stress during hydrogen exposure.

transmission electron microscopes. Some mathematical modeling is also being done.

"It may be possible someday," Jim believes, "to use hydrogen in pipeline distribution systems similar to natural gas. And there may also be advantages to running specialized vehicles on hydrogen fuels. Other possibilities are using hydrogen as coolants in superconducting electrical transmission lines and using hydrogen in homes for appliances and heating. "The world may never see a complete hydrogen economy," Jim says, "but hydrogen is definitely in our future." •dg

Death



Hank Stratmann, a service coordinator in Plant Maintenance Division 8257, died Jan. 28 after a short illness. He was 57.

Hank had worked at Sandia since July 1959.

Survivors include his wife and brother.

Take Note

Verne McNabney (8252), Labs fire protection representative, has been elected president of the Twin Valley Fire Chiefs Association for 1975. Formed 10 years ago, the association is now composed of 16 fire departments from Alameda and Contra Costa Counties. Main purpose is to promote mutual aid between communities; for instance, in a four-alarm emergency 20 pieces of fire-fighting equipment and 90 firemen are available within 20-30 minutes.

Jim Spirup (8261) is Public Relations Committee chairman for the American Society for Industrial Security, Greater San Francisco Bay Area Chapter. A member for over 10 years, Jim in his new capacity will secure press and TV coverage for the organization's activities during this, its 20th anniversary year, and will work in the community to further the growth of industrial security.

Ninety-three employees donated blood during the Blood Bank Drive held last month at Sandia Livermore. Of those donations, 64 pints went to the Sandia Blood Bank and 29 to Kaiser Health Care Plan. Training and Benefits Division 8214 coordinated the drive.

Rudy Johnson (8312) served as general chairman and Jack Dini (also 8312) as session chairman at the recent Symposium on Electroforming sponsored jointly by the American Electroplaters' Society and the American Society for Testing and Materials in Atlanta, Ga. The program featured papers by U.S. and international experts, including one by Rudy and Jack entitled "Fabricating Closed Channels by Electroforming."

Hospital-Surgical-Medical Benefits

Being Sick Is Bad Enough

Sandia has offered employees some form of group health insurance ever since we were with the University of California. Back in 1950, total monthly premium for the plan was only about six dollars, but the employee paid it all.

By the late 50's, Sandia began picking up part of the premium tab. As Jack Merillat, manager of Compensation and Benefits Department 4210, puts it, "The interests of employee and employer meet here — ideally, the employee is well all the time; when that's impossible, he or she should be able to afford the quality of medical care necessary to get well again quickly. The employer backs up that interest with cash for insurance."

Lately, costs associated with getting well have risen even faster than other costs. A semi-private room in an Albuquerque hospital costs about \$65 a day. And that doesn't include the use of operating or recovery room, X-rays, medication, or other services and supplies. Costs for surgical and medical expenses have risen dramatically too. It's expensive to be sick.

Sandia now picks up the entire premium for employees enrolled in Equitable's traditional indemnity (that is, after-the-fact reimbursement for medical expenses incurred) Health Care Plan. This year the premiums cost Sandia \$18.53 per month for single coverage, \$47.32 for family.

For employees who prefer them, Sandia provides four health maintenance plans — two at Albuquerque (Lovelace-Bataan Health Program and MASTERCARE), one at Livermore (Kaiser Foundation Health Plan), and one for employees in the Las Vegas area (Nevada Health Plans). A health maintenance plan is prepaid (that is, before-the-fact premium submittal as a prepayment for medical care required). Employees have an opportunity to change plans annually, and, in the case of the health maintenance plans, Sandia pays a portion of the premium equal to the amount it would have paid Equitable; additional premium costs are paid by the employee monthly:

Plan	Single	Family
MASTERCARE	\$ 9.89	\$26.48
Lovelace-		
Bataan	9.21	31.72
Kaiser	3.95	12.23
Nevada	10.54	20.52
* * * *		

On-roll employees at Albuquerque (and their families) can choose the traditional plan (Equitable) which generally provides reimbursement of 80% of the cost of medical expenses after an annual \$50 per individual (or \$150 per family) deductible is met. Maximum benefit this year is \$100,000, up from \$40,000 last year, \$20,000 the year before. Next year a "stop-loss" provision goes into effect: after medical costs reach a total of \$10,000, Equitable pays the entire bill.

Or employees can choose between the two health maintenance plans. MASTERCARE is offered by Presbyterian/St. Joseph Hospitals plus a cadre of participating private physicians. The Lovelace-Bataan Health Program is based on that hospital-clinic plus the organized physician group practice associated with it. Both plans generally provide all necessary health care services with minimal or no out-of-pocket costs. In both plans, coverage is almost unlimited.

"With three plans offered, Sandia Albuquerque has one of the widest selections of health care in the country," says Tex Ritterbush (4212) who was instrumental in getting the health maintenance groups

together with Sandia in the first place. "That's one of the reasons that the HMO Services people in HEW commissioned a formal study of what they called 'The Sandia Event.' The results are being used now to help other health maintenance groups across the US get started. Sandia is a kind of pioneer in the HMO (health maintenance organization) field."

At Livermore and at Las Vegas, employees have two choices: Equitable plus either Kaiser or Nevada Health Plans. The Kaiser plan is similar to the Lovelace-Bataan plan in Albuquerque; the Nevada plan is patterned roughly after MASTERCARE in structure.

"Upcoming federal legislation will likely make some changes necessary in each of the five plans Sandia offers," says Bob Edelman, Director of Personnel 4200, "but it's too early to know yet what those changes might be."

Change is nothing new in the health care field. Contrast the wide coverage of today with the plan in which many Sandians were enrolled in the late '40's. A fee schedule plan, it covered only the limited number of medical problems on a list. And it didn't pay much, at least by today's standards: for example, treatment of fractured wrist — \$15; removal of cataract — \$75; treatment of fractured pelvis — \$75; removal of tonsils and adenoids — \$25.

Current Health Care Plan administrator is Vern Henning: "I'm the liaison between the employee and her or his health plan. I help get any difficulties between them straightened out — usually it's a case of one side not understanding the other. So I'm a kind of ombudsman."

"All in all, we have a pretty smooth operation — very few problems in relation to the 20,000 claims filed each year. Incidentally, the volume of claims is the reason that a Plan is likely to ask the employee to get further information — from a doctor, for example. Sure, the Plan people could do it, but it would probably mean tripling the time it now takes to process a claim."

* * * *

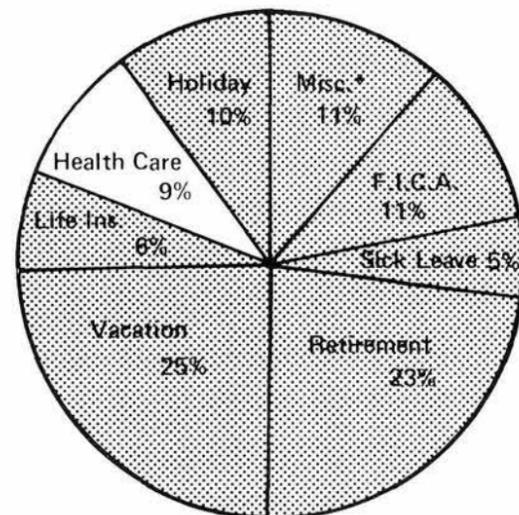
Insurance of any kind is an actuarial science. One of the corollaries of that statement is that insurance involves bureaucracies and attendant paperwork. And therefore red tape — and frustration.

So we gripe a lot when everything doesn't go just right immediately. "But if you ever face a real medical emergency, you love your insurance plan, warts and all," says Sandy Borgrink (3731), who knows; she had open heart surgery under one of the HMO plans just five days after the program began two years ago. "There were a couple of problems in administration, sure, but I think you have to expect a few. Far better a few small problems that the one big one — paying those bills all by yourself."

Vern has heard a lot of gripes, but he's seen a lot of gratitude too. "Right now we're getting pressure to include dental care and prescription glasses in the plans. They could be covered, of course, but it would take money — money that would have to come out of some other benefit. That might be a rough choice to make."

"Nevertheless we continue to upgrade the quality of our plans. For the sake of the Labs — and for the sake of our employees — we can't afford not to."

(Future articles in this series will discuss insurance, retirement, vacation, and other elements of the benefits program at Sandia.)



THIS ARTICLE is one of a series designed to give readers an overview of Sandia's Benefits Program. It is not intended to replace the applicable contracts, SLI's, or other official documents. Salary, of course, accounts for most of a Labs employee's total compensation; the benefits portion of compensation varies from group to group but averages about 40% (around \$40 million annually) of base payroll. Total benefit costs are split according to the pie chart above. * Miscellaneous includes: unemployment insurance, other insurance, rest period, savings plan, personal absence, missed time, conferences with management, training, meals, etc.

Caudle, Miller Hear Call of Wild

It seems that Bill Caudle (5716) and Gordo Miller (9414) were just sitting there, minding their own business and boring holes in the polar sea ice north of Point Barrow, temperature a pleasant -34° and a right smart wind kicking up the snow. The afternoon was wearing on to evening, and it was about time to return to base some seven miles distant when Charley, their faithful Eskimo companion, casually announced that the battery was dead on the vehicle.

This news would not dismay your average Nanook of the North, but Caudle and Miller are a couple of cowboys from New Mexico and they sort of lost their cool, in a manner of speaking. "Start walking" someone said, and they did. Seven miles in loose snow in bulky clothing in darkness and frostbite cold gives a man time to think about the kind of life he's led.

But they lucked out. After a mile or so of slogging, they came upon a deserted shack and found within it, wonder of wonders, a drum of diesel fuel and some 2 X 4's. Caudle notes that lumber up there goes for 10 bucks a foot, but Shoot-the-Works Miller soon had one cheery, expensive fire going. It gave a little warmth, but more importantly served as a beacon for rescue vehicles.

Caudle, Miller and company were returned to base later that night, just in time to miss dinner. As casualties go, they concluded that missing dinner wasn't all that bad after all.

Congratulations

Mr. and Mrs. Sam Giron, Jr. (3163) a boy, Jan. 23.



Cape Parry

● is a DEW-line station 285 miles north of the Arctic Circle in Canada's Northwest Territories.

● was the site of January rocket launchings in Project Tordo, LASL's pioneering investigation of a relatively unknown region of the magnetosphere called, of all things, the dayside cleft or the polar cusp. The cleft is a sort of narrow funnel reaching from the magnetosphere down to the polar ionosphere. Through it the solar wind (that is, charged particles, or plasma) streams from outer space into the earth's protective magnetic blanket. The rockets carried a high-explosive shaped charge containing metallic barium which, when detonated 500 km up, ionized to allow visual tracing of plasma convection through the cleft.



● was the temporary home of several Sandians whose job it was to furnish the payloads and to fire the Black Brant IVA rockets.

Some of them recalled their impressions for LAB NEWS: these pictures are by intrepid LASL photographer Rob Gordon. (Cover photo by Morris Goebel).

When the big storm hit on New Year's Eve, five of our people were marooned at the launch site. With the tent protecting the rocket blown away, it was vital to get the rocket off the launcher and back into the hangar. To do this in sub-zero temperatures with 40 mph winds and in total darkness required an almost superhuman effort. What a way to celebrate New Year's Eve!

— John Eckhart (1250)

I've been on tests in Alaska so the cold was no surprise. But the wind was. Sometimes it meant 15 minutes working, half an hour warming up.

— Bill Millard (5624)

The Arctic gear was good, kept us warm enough, but because of its bulk you have to learn new ways of doing simple things — to go somewhere, you walk 20 steps, fall down, roll, get up, walk 20 more, etc., and just getting up onto the running board of a pickup takes gymnastic talent.

— Jim Davis (1254)

I'm a new hire: Tordo was my first field test. I was amazed at the way people jumped in to help — it was a good group. Tordo was sort of like boot camp; once it's over, you're glad you were there.

— Rick Eisler (5624)

It's isolated up there — you're isolated from civilization, and, when you're wearing fur hood and face mask, you're isolated even from the people you're working with.

— Ted Krein (1253)

It was damned cold. Dark too — a few hours of dusk at midday. The three of us who went up early didn't see the sun from Dec. 8 till Jan. 16.

— Bob Kissam (1254)

Cold does strange things — guy was using an electric drill when the cord snapped in two;



a flashlight lasts maybe 15 minutes, then you have to put it inside your parka to warm up before it works again; wear your gloves open at the wrist and your watch freezes.

— Random Comments

From what I hear, it was the worst weather Sandia has encountered in 18 years of firing rockets.

— Randy Maydew (5620)

Although we were well prepared to do the job, overcoming the elements required lots of ingenious improvising on the spot.

— John Eckhart (1250)

I've made five rocket-firing trips to Fairbanks during the past four winters. Compared to the Cape Parry operation, those projects were spring picnics.

— Morris Goebel (1254)

Accommodations were excellent, food superb. But working conditions were crude, almost primitive. Quite an experience!

— Bob Pett (1253)

A challenge — that's the word. Often -40° to -50° with 25 mph winds for a chill factor of -100° .

— Jim Davis (1254)

You take your glove off to hold a nail for one hammer tap. Then you put it back on and finish pounding the nail.

— Ted Krein (1253)

A unique meteorological experience: the snow falls horizontally.

— Morris Goebel (1254)

The two rocket launches were a complete success; they would have been impressive even without the almost unbearable working conditions.

— Bill Gardner (1200)

Gov. Lew Wallace — Man for All Seasons

Palacio real, casa reales, el palacio, the palace of the governors — any one of these names evokes scenes plucked from four centuries of history. History comprised of day-to-day living and dying, for the palace was a home. And history comprised of acts of treachery and violence, of patronage and politics, and of civil and military decisions, because the palace was the seat of power and authority, controlled variously by Spanish Colonials, Pueblo Indians, Mexicans and Americans.

One occupant of this residence created a setting of tranquility: late at night he would shut himself into a bedroom behind the executive office. No sound penetrated the thick adobe walls and here, night after night, this man wrote the final chapters of an absorbing story. He was Lew Wallace, governor of New Mexico Territory (1878-81) and the story was *Ben Hur*, a tale of the coming of Christ.

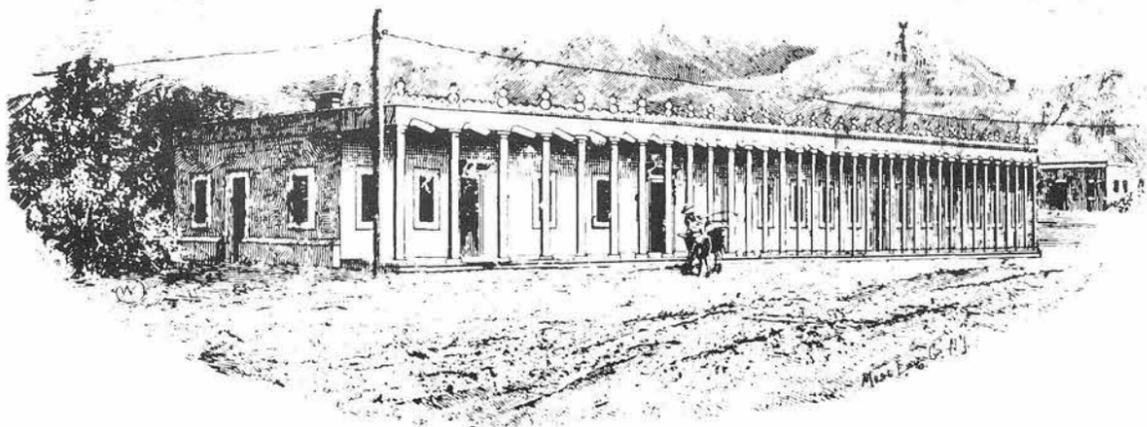
Lew Wallace arrived in Santa Fe on Oct. 1, 1878, and was inaugurated as governor of the territory on the same day. His appointment had been made by President Hayes and his instructions were to restore peace and order in New Mexico. Two years before his arrival a feud — the Lincoln county war 8 had erupted that involved many prominent cattlemen and rival politicians. territorial officials had taken no action, so president Hayes appointed Wallace, giving him authority to call out federal troops to quell the violence. As it turned out, Gov. Wallace conducted more of a mopping-up-exercise, and a truce was reached before federal troops went into action.

Wallace was born in Indiana in 1827. As a young man, he preferred to draw; school was of no interest to him until his father was elected governor of Indiana and they moved to the capital where he discovered the state library. During his teens he was impressed by a book about the conquest of Mexico and decided to write on the same subject; his book, *The Fair God*, was published in 1873. He worked as a reporter for the *Indiana Daily Journal*, covering activities of the House of Representatives. He studied law, was admitted to the bar, and later was elected to the State Senate.

He apparently didn't care for politics or law but did like military life. At the onset of the Mexican War he raised a company and became a second lieutenant. Wallace made a name for himself during the Civil War by preparing the defenses of Cincinnati in 1863 and saving that city from capture by Gen. Kirby Smith. He fought at Shiloh and is credited with saving Washington from almost certain capture by directing a delaying action against the Confederate army.

General Wallace served on the court martial which tried the alleged assassins of President Lincoln and was president of the court that convicted Henry Wirz, commandant of Andersonville Prison.

The most significant event occurring during Gov. Wallace's administration was the arrival of the railroad in New Mexico. The Atchison, Topeka and Santa Fe line crossed the Raton mountains on Nov. 30, 1878. The line reached Lamy (as close as it ever got to Santa Fe) on Feb. 9, 1880 and, that morning, a telegram was sent to the president of the company in Boston. "New Mexico sends greetings to New England and Santa Fe to Boston; last rail has been laid and at eleven



GOVERNOR LEW WALLACE made this pencil sketch of the Palace of the Governors.



LEW WALLACE, Governor of New Mexico Territory, 1878-1881.

o'clock this morning the last spike was driven by Governor Lew Wallace in the presence of the Territorial Legislature, officials, the military and entire population; salvos of artillery, music by bands, locomotive whistles and the cheers of thousands of spectators welcomed the joyous event."

Ben Hur was published in 1880 and became an immediate success. Over 300,000 copies were sold in the next 10 years; it was translated into several foreign languages, including Arabic and Chinese; and was successfully dramatized. Governor Wallace wrote and published several other novels and a book of poetry.

Following his tour in New Mexico, he served as minister to Turkey for four years and then retired to his home in Crawfordsville, Ind. He was a popular lecturer during his retirement years, he continued to write, and his vital interests were art, music and literature. He said he built the study in his home as "a pleasure-house for my soul." Following his death in 1905, his wife Susan completed his last work — *Lew Wallace — An Autobiography*.

In 1907 a new executive mansion was constructed and, two years later, a legislative act established the Museum of New Mexico in the Old Palace. The room in which Lew Wallace wrote his epic is called the *Rito de los Frijoles* Room and houses the Bandelier collection. • nt

Vook Heads Summer Study

To put it simply, a nuclear reaction has some unfortunate effects on a reactor's inner walls. These radiation-caused effects in the wall materials were the subject of an American Physical Society Summer Study headed by Fred Vook, manager of Radiation and Device Physics Research Department 5110.

The goal of the Study (which was funded by AEC) was to identify as specifically as possible those radiation effects on materials which are major problems in using fission (or fusion) reactions as an energy source.

"We had 46 people at the Study last summer," says Fred, "and 11 of us wrote the report which has now been submitted to and approved by the American Physical Society. Many of the participants were professors at various universities. We tried to define the significant materials effects — the deficiencies in basic knowledge which most need solving — and thereby focus some university talent, talent that hasn't been directly involved in the problem before."

Nuclear energy is, of course, one of the most promising sources of power. But one of the reasons nuclear power remains relatively expensive is that it takes money to overcome the problems which arise when nuclear particles collide with solid reactor walls. For example, thermal neutron power reactors now in service could operate much more efficiently — and at lower cost — if it were not necessary to make allowances in the reactor design for the fact that the pressure vessel and the fuel cladding are subject to radiation embrittlement. This embrittlement is the basis of an expensive monitoring program, estimated to cost the power industry \$100-300 million annually by 1982. A greater understanding of embrittlement would permit significant economies. Another crucial area to which Sandia is contributing is to develop both an experimental and theoretical understanding of ion and electron simulation of fission and fusion neutron damage.

"Once more is known about exactly what happens and why, then the costly work of testing and monitoring can be reduced appreciably," says Fred. "The Summer Study succeeded in specifying the basic and applied physics research areas where increased knowledge will be especially valuable."

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NEW AREA III water storage tank — 700,000 gallons — was completed recently. Earl Gruer (9742), Plant Engineering Department project engineer, reports that pumps and associated control equipment are being installed in the adjacent pump house and that the new water system should be in operation next week. The new tank, filled from a 10-inch line from Area I, serves primarily as a fire protection emergency system. It is positioned on a hill — elevation 5592 feet — on the south end of Area III.

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N.L. Vinson and W.R. Atkins (both 1613), "Cutting the A.V. Umbilical Cords," Vol. 20, No. 1, AUDIOVISUAL INSTRUCTION.

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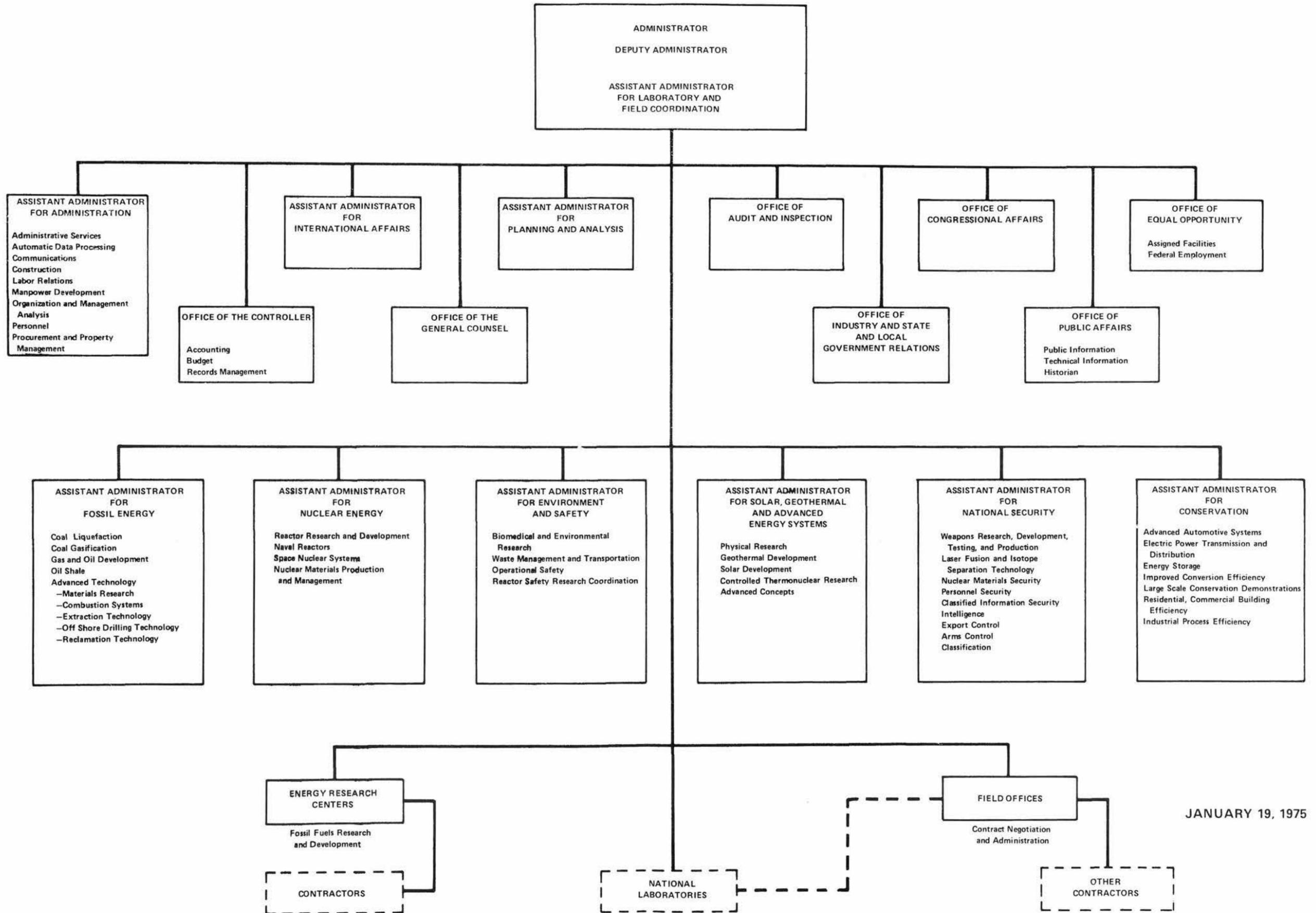
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FUNCTIONAL ASSIGNMENTS IN ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION



JANUARY 19, 1975

← THE CHART →

The chart reproduced on the page opposite is a follow-on to that reproduced in the last issue of LAB NEWS. Showing functional assignments, it answers the question "who handles what?" AA's

(assistant administrators) are grouped with their major fields of interest. Sandia's weapon programs fall under the AA for National Security, but our energy-related and other programs are found under the other AA's.

Speakers

L.R. Edwards and I.J. Fritz (both 5132), "Pressure Dependence of the Magnetic Ordering Temperatures in Cr-Fe Alloys"; W.J. Camp and J.P. Van Dyke (both 5151), "High-Temperature Series Studies of Ising-Like Wilson Models in Three Dimensions"; Van Dyke and Camp, "Logarithmic Corrections to Mean-Field Behavior of the Susceptibility in Four-Dimensional Systems"; E.L. Venturini (5132) and Morgenthaler (MIT), "AFMR Versus Orientation in Weakly Ferromagnetic $BaMnF_4$ "; H.T. Weaver (5154), "Pressure Dependence of the Rare Earth Knight Shift in the Singlet Ground State Systems PrP and TmP"; L.C. Bartel (5151), "Comparison of the Magnetic Properties of the Hubbard Hamiltonian in the Weak Correlation Limit to the HFA"; P.M. Richards (5132) and R.C. Hughes (5814), "Measurement of Interchain Diffusion in a Quasi-One Dimensional Heisenberg Magnet," 20th annual conference on Magnetism and Magnetic Materials, Dec. 3-6, San Francisco.

P.M. Richards (5132), "Magnetic Resonance Properties of Low Dimensional Compounds," Seminar, Xerox Research Center, Dec. 12, Palo Alto, Calif.

R.L. Schellenbaum (1255), "Solar Ultraviolet Irradiance and O_3 Particle Density Observations at 28 km Balloon Float-Altitude"; R.O. Woods (1255), "Evidence of Outgassed Water Vapor as Detected by an On-Board Mass Spectrometer"; L.D. Tyler (1111) and W.C. Vollendorf (1133), "In-Situ Stress and Fracture Mapping Resulting from Hydraulic Fracturing of Tuff"; G.A. Carlson (5167), "Stress Wave Measurements in Earth Penetrator Experiments"; P. Yarrington (5166), "Penetration in a Locking Soil — A Quasi-Static Approach"; R.A. Schmidt (5163), "Mechanical Properties of Oil Shale from Anvil Points Under Conditions of Uniaxial Compression"; F.R. Norwood (5166), "Earth Penetration Predictions Obtained by Cylindrical Cavity Expansion in a Locking Soil"; R.K. Byers (5166), "Calculations of Dynamic Soil Response to Penetration by Projectiles"; A.J. Chabai, R.T. Walsh and R.K. Byers (all 5166), "Computation of Projectile Motion and Loads for Earth Penetrators"; K.W. Schuler (5163), P.C. Lysne (5131), and A.L. Stevens (5167), "Dynamic Properties of Oil Shale"; R.T. Walsh (5166), "One-Dimensional Approximations for Earth Penetrators," annual fall meeting, American Geophysical Union, Dec. 12-17, San Francisco.

D.W. Schaefer (5814) and B.J. Berne (Columbia Univ.), "Number Fluctuation Spectroscopy of Motile Microorganisms," International Conference on Light Scattering Studies of Motion in Molecular Systems," IBM Research Laboratory, Dec. 16-20, Verbier, Switzerland.

J.S. Pearlman (5214), "X-Ray Lasers," Astronomy Dept. Seminar, Harvard Univ., Dec. 6, Boston.

J.M. Hueter (3131), "Creativity — A Training Bonanza," American Society for Training and Development, Nov. 21, Albuquerque.

R.P. Stromberg (5717), "Solar Energy Research," Harvard-Yale-Princeton Club, Dec. 2, Albuquerque.

H.H. Patterson (1730), "Mexico and the Sea of Cortez," Caravan Shrine Club, Dec. 9, Albuquerque.

G.C. McDonald (9623), "Backpacking Made Easy for Sedentary Citizens," Northwest Kiwanis Club, Dec. 11, Albuquerque.

D.S. Johnson (9421), "A Nation in Quandary in a World of Crises," Caravan Shrine Club, Dec. 16, Albuquerque.

D.M. Chavez (4256), "How to Apply for a Job," Kennedy Jr. high school speech classes, Dec. 17, Albuquerque.

P.S. Percy (5132), "Measurements of the 'Soft' Mode in KH_2PO_4 at High Pressure," Midwinter research conference, Jan. 1975, Irvine, Calif.

T.M. Schultheis (9423), "The DITAC System at TTR," American Institute of Plan Engineers meeting, Jan. 10, LASL.

C.E. Land (5113), "Problems Associated with the Electrooptic Properties of PLZT Ceramics," the AEC/MIT Ceramic Science Meeting, Jan. 13-14, Cambridge, Mass.

R.A. Hill, D.P. Aeschliman and C.E. Hackett (all 5642), "Optical Flow Diagnostics for Plasmas"; J.B.

Moreno (5641), "Computer Model for the H_2-F_2 Super-Radiant Laser"; E.L. Clark and R.H. Cross, Jr. (both 5645), "Digital Spectral Analysis and Filtering of Dynamic Data," AIAA Aerospace Sciences Meeting, Jan. 20-22, Pasadena, Calif.

D.W. Schaefer (5814), "Light Scattering from Charged Macromolecules," Physics Dept., University of Guelph, Jan. 14, Guelph, Ontario.

S.W. Key (1541), "A Finite Element Procedure for the Large Deformation Dynamic Response of Axisymmetric Solids," Univ. of Ill., Chicago and Argonne National Labs, Jan. 15-16, Chicago.

R.W. Mottern (9351), "Getting Information from X-Ray Films," and "Radiology Versus Radiography," District Society of Radiological Technicians, Jan. 18, Albuquerque.

F.W. Oswald and L.K. Jones (both 5821), "Solvent Removal of Solder Flux," Seminar on Contamination: Its Effects, Detection and Control, Jan. 22-24, St. Petersburg, Fla.

R.E. Allred (5844) and T.R. Guess (5847), "Experimental and Theoretical Study of Double Lapped Composite Joints," 4th Army Materials Tech. Conference, Jan. 25-29, Vail, Colo.

R.E. Nickell (1541), "Finite Element Methods for Coupled Field Stress Problems," Winter meeting, ANS, Oct. 27-31, Washington, D.C.; and "Computer Program Construction and Maintenance — The Future of Centralized Finite Element Activity," annual meeting of the American Association for the Advancement of Science, Jan. 27-31, New York City.

A.D. Swain and H.E. Guttman (both 1642), "Human Reliability Analysis Applied to Nuclear Power"; R.G. Easterling (1643), "Risk Quantifications in Reliability Demonstration and Acceptance Sampling," 1975 Reliability and Maintainability Symposium, Jan. 28-30, Washington, D.C.

F.L. Vook (5110), "Radiation Effects on Materials"; L.W. Davison (5131) and A.L. Stevens (5167), "Spallation of Ductile Metals"; M.W. Widner (5241) and F.C. Perry (5242), "Megabar Pressures in Anode Targets from Tightly Focused Relativistic Electron Beams"; J.R. Asay (5167), "Experimental Determination of Shock-Induced Melting in Aluminum"; J.E. Kennedy and J.W. Nunziato (both 5131), "Acceleration Waves in PBX-9404"; C.M. Percival (2411) and P.C. Lysne (5131), "Normal Mode Response of Shock Compressed PZT 95/2"; H.J. Sutherland (5163) and J.E. Kennedy (5131), "Acoustic Characterization of Two Unreacted Explosives"; P.C. Lysne (5131) and C.M. Percival (2411), "Analysis of PZT 95 5 Shock-Compressed in the Normal Mode"; D.R. Hardesty (5131), "Shock Initiation in Homogeneous Explosives"; R.A. Graham (5131), "Linear and Nonlinear Piezoelectric Stress Constants of Lithium Niobate as Determined by the Elastic Impact Technique," American Physical Society, Jan. 29-Feb. 1, Anaheim, Calif.

R.E. Allred and F.P. Gerstle (both 5844), "Effect of Matrix Properties on the Transverse Mechanical Behavior of High-Performance Composites," Reinforced Plastics Tech. & Management Conference, Feb. 5-7, Washington, D.C.

M.J. Landry (2441), "Lasers," Rio Grande H.S. science class, Jan. 9, and Eldorado H.S. physics class, Jan. 13.

R.M. Jefferson (1724), "The Nuclear Power Dilemma," Manzano H.S. world problems class, Jan. 14.

T.B. Sherwin (3160), "A Look at Sandia Labs," Highland H.S. humanities class, Jan. 22.

G.W. Hughes (9474), "The Metric System and the Citizen," Heights Lions Club, Jan. 23.

N.J. DeLollis (5813), "Theory of Adhesion and Mechanism of Bond Failure," NMIIT Chemistry Club, Jan. 27.

D.W. Braudaway (9532), "Standards? Quo Vadis?" Albuquerque Section of ISA, Jan. 22.

K.E. Sutton (4250), "The Handicapped: Attitudes in the Marketplace," workshop seminar, Department of Vocational Rehabilitation Counselors, Jan. 24, Albuquerque.



MORGAN SPARKS again used closed circuit TV last week to brief employees on the state of the Labs. Bulk of message dealt with budget matters for this and the next fiscal year. No layoff is anticipated in the remainder of this fiscal year, more than a quarter of a billion dollars are proposed for next year's budget, and Sandians can expect large numbers of internal shifts to meet program needs.



Scott to New Post

Robert Scott, manager of the ALO Sandia Area Office, has been appointed Assistant Manager for Administration at ALO. He succeeds Laddie Otoski, who recently retired.

Mr. Scott has been manager of the Sandia Area Office since June 1973. His successor has not been named.

In his new assignment, he will supervise the activities of the Classification and Technical Information Division, Finance Division, Headquarters Services Division, Organization and Personnel Division, and Security Division.

Variable Annuity Unit Value

March 1975	1.175
February 1975	1.078
Average 1974	1.336

Computing Colloquium

Topic: "Computer Assisted Design of Integrated Circuits"

Speaker: C. W. Gwyn (2142)

Time: 1:30 p.m., Feb. 25 (live)
10 a.m., Feb. 27 (video)

Place: Bldg. 815 (outside tech area)

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Sympathy

To Henry (9715) and George (9754) Pacheco on the death of their father in Albuquerque, Feb. 8.

To Alden Luhrs (9514) on the death of his son in Albuquerque, Feb. 11.

feed back

To get a response to your comments and questions about Sandia Labs, complete a Feedback form (available near bulletin boards) and return it to the Feedback administrator. The substance of questions and responses of wide interest is published in LAB NEWS.

Q. Can anything be done about traffic control at Wyoming and "O" streets? For example, either install a traffic light or reverse the "Stop" sign to control the smaller volume of traffic on Wyoming.

A. The Security Police are well aware of the traffic problem at Wyoming and "O" Streets. Their Traffic Control Board reports that this intersection is relatively high on the priority list for the installation of a traffic light. Unfortunately, Air Force funding is such that it is doubtful that a light will be installed within the near future. As an interim measure, however, the Air Force has agreed to alleviate this problem by paving a right-turn lane on "O" Street for traffic wishing to turn north on Wyoming.

As you point out, the bulk of the traffic during the morning and evening peak periods is on "O" Street. The Sandia representative on the ITC Board has previously presented your suggestion of a Wyoming stop sign at this intersection, but it was denied. Possibly some variation of this can be worked out with the Board during the interim period.

L. J. Heilman - 9500

Q. What system is used to record the fact that an employee has attained an advanced degree? I got a master's degree in June 1974, yet my personnel record still shows me with a bachelor's degree as of October 22, 1974. In another case the employee who got a master's degree found it was still not recorded nine months later.

A. We are in the process of converting from the 7090 to the 1108 for data processing of education records (degrees being included). During the conversion period, updating is slow and subject to human error, as records are updated manually. Once the conversion is successfully made (hopefully Dec. 74), the recording of degrees will occur on a more timely basis. Two immediate actions will be taken: (1) Your record will be corrected; (2) we will update manually until the new system becomes effective, and we will also double check all records within the past year to be sure that other oversights do not exist.

K. A. Smith - 3100

Q. What are chances of having a local newspaper vendor machine at the gates in areas II, III & V? It would sure be convenient.

A. We have contacted the newspaper vendor and he informs us that it would be unprofitable to place stands at Area 2, 3, and 5 gates. The volume of sales would be small and the expense of servicing these outlying areas would be too high.

R. J. Edelman - 4200

Q. I have just learned that Sandia reimburses employees for the \$6.70 monthly cost of a spouse's Medicare coverage when the spouse is eligible for Medicare because of disability. Employees whose spouses are eligible for Medicare because of age are not reimbursed. This seems unfair.

A. Your recent Feedback points out an area in which our policies and practices need updating.

In July 1973 several changes to Medicare became effective, one of which provided that individuals receiving Social Security benefits for a 24-month consecutive period became eligible for Medicare. Sandia decided to reimburse employees for the costs of Medicare B in connection with that change.

To be consistent, effective January 1, Sandia is reimbursing employees for the costs of Medicare B based on age eligibility of their dependents.

R. J. Edelman - 4200

Q. What is Sandia's policy on 'ownership' of computer programs, programming techniques and subroutines developed by an individual employee? Why isn't it well established and widely publicized that they are in fact a corporate asset to be used to the best advantage of all concerned? By default the policy appears to be that they belong to and are closely guarded by the developer.

A. Sandia's policy is that computer programs, techniques, and subroutines are a valuable asset of the Laboratory, clearly implying Labs 'ownership'. In the case of scientific and engineering programs, this policy was publicized widely by two letters distributed to all technical divisions and departments by Jack Howard as recently as July and August of last year. The first of these letters was directly related to the documentation of useful and repetitive programs, and called for all organizations to apply documentation techniques to the extent that others might readily use them. The second letter outlined the methods by which such programs were to be entered into the Sandia Laboratories Computer Code Index, maintained by Technical Library Department, 3140.

The responsibility for complying with this policy resides with the originating programmer and his supervision.

In some circumstances a programmer may be justified in withholding his code from distribution. For example, if he knows the code might give inaccurate results on a certain class of problem, or if his program is inherently inefficient in use of computing resources, he may withhold it.

We are somewhat inclined to agree with you that a full, open exchange of all useful computer programming information has not yet been achieved. We would be pleased to hear suggestions on how we might reach that goal, and to attack specific problem areas you may have encountered. Feel free to call on us.

L. E. Hollingsworth - 2600

Q. Isn't there some way our car pool parking areas could be improved to eliminate such close parking? Quite often HEATED arguments are started simply because there is not enough room to get out of a normal sized car. It appears as though only small cars were considered in the planning of the parking lots.

A. Sandia parking areas are designed to conform with nationally recognized standards. Those lots which have not been resurfaced within the past three years were organized to accommodate the maximum number of vehicles, as there were more people on roll and more vehicles driven to work. Areas resurfaced since that time have been marked in accordance with optimum standards (i.e., 9' wide).

As the older lots are resurfaced we will lay them out with 9' parking spaces. Funds are not available to restripe parking areas on an interim basis.

R. E. Hopper - 9700

Q. Is there any possibility of division secretarial jobs being reclassified by Vice Presidencies? These jobs vary in scope and responsibility, and a division secretary's job description should differ according to the charter of her organization, and level (PhD and etc.) of the division supervisor, and the level (PhD etc.) of the staff.

A. We recognize that all division secretaries' assignments are not identical and that some are more demanding than others. We are also aware that division secretary tours within vice presidencies, directorates and departments vary in content and scope. It, therefore, does not appear that a separate job classification for each vice-presidency would define the duties of each division secretary in the organization to any greater degree of accuracy than the current general description.

When the division secretary classification was revised and upgraded from grade 34 to grade 35 in 1972, particular consideration was given to specialized secretarial duties and responsibilities involved in many of the technical divisions. This was a significant factor in reevaluation of the division secretary job. At that time, many suggestions pertaining to appropriate classification of division secretaries were considered, including the possibility of establishing more than one classification, such as you have suggested. A determination was then made that difficulties which would be encountered in equitably administering multiple classifications for division secretaries would outweigh any advantages that would accrue therefrom. For this reason a single classification, which is evaluated to include the highest requirement to be expected of division secretaries, was established.

R. J. Edelman - 4200

Advice to the Poolorn

by Otto Miles Shorter, Exp.

Dear Otto:

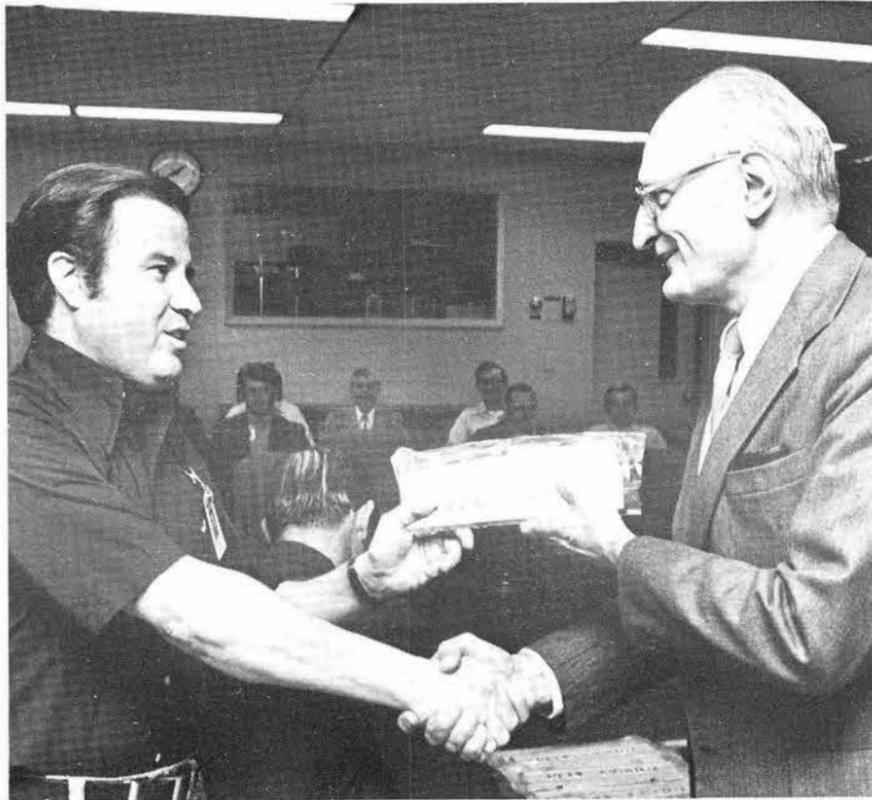
Talk about car pooling, you better get iron doors and windows installed — they act like they are trying to see just how hard they can slam your car door. I have a window out from this right now.

And these same people who do this slamming will start rolling windows up if they are down and down if they are up, and either freeze or roast everyone else in the car.

WARREN CONSTANT LEE

Dear Warren:

Go ahead with the iron windows; you won't have to clean 'em either. Car pool only with people who own Mercedes-Benz's. They are constitutionally incapable of slamming car doors. Remove all window handles. Or have a door-slaming contest, using the other guy's car. He just may come around.



UCF AWARDS — Twenty six Sandia organizations qualified for UCF silver awards with 75% of their employees contributing to UCF at the Fair Share Level (one hour's pay per month). President Sparks presented the awards last week. Here, Bernie Vallejos, 3100 directorate representative in the recent campaign, accepts an award for Department 3160. Sandians have pledged \$413,845 to the Employees Contribution Plan, 85.2% of which goes to UCF; the rest is divided among eight national health and welfare agencies.

Slide Show Available

The City's Environmental Health Department has a 14-minute sound-and-slide show, "That Healthful Climate," which covers the causes and effect of Albuquerque's pollution problem — and suggests some remedies. If your club or group would like to borrow the show (and the question-answerer who comes with it), call the Department at 766-7432. It's free.



TED TAYLOR, former weapon designer at LASL, has become a 20th century Paul Revere on the risks attendant upon the proliferating of nuclear materials and their potential for destructive use. The physicist addressed a capacity crowd at last week's colloquium. Videotape of the talk will be shown March 6 at 10:15 a.m. in Bldg. 815 outside the Tech Area.

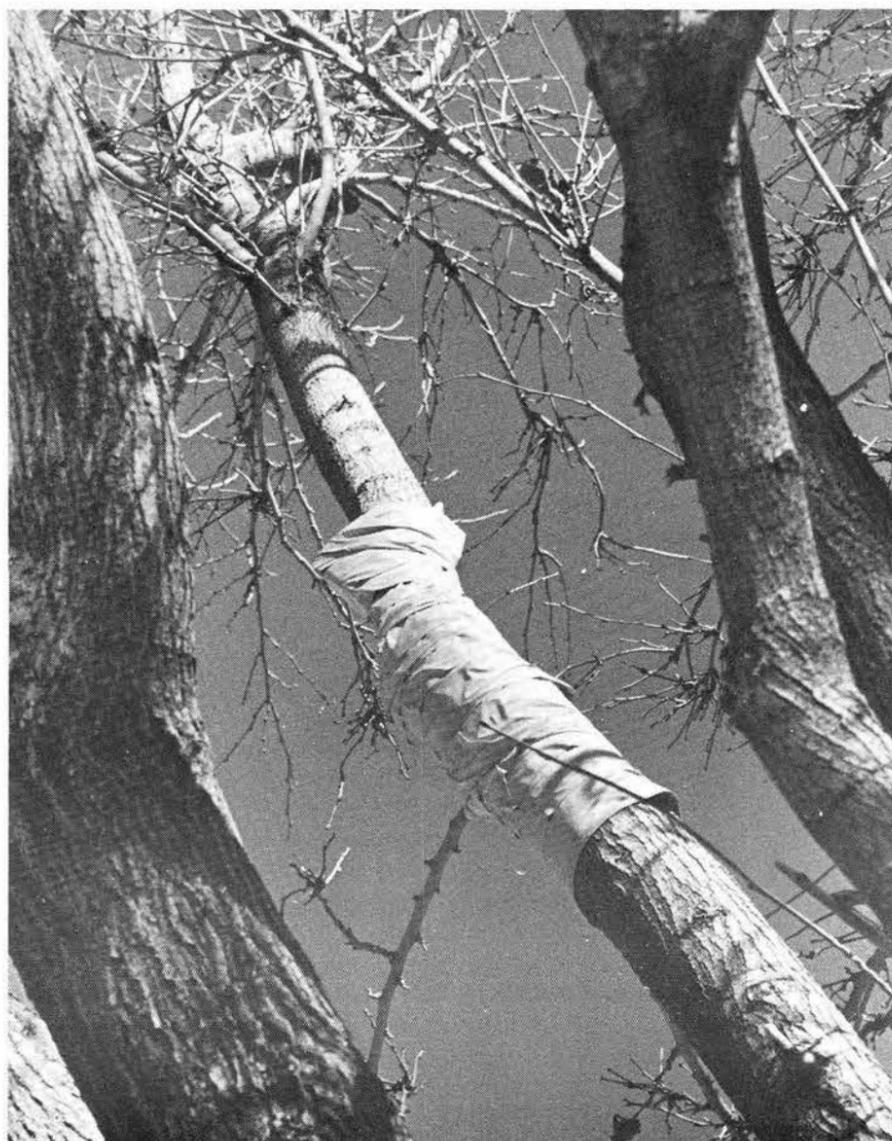
commuting information
DIAL 4-RIDE

Death

Paul Callies, supervisor of Mechanical Design Division 2344, died Feb. 11 after a short illness. He was 54.

He had worked at Sandia for 24 years.

Survivors include his widow and three daughters.



BY THIS TIME, Sandia's ubiquitous yellow tape probably has found its way to the moon, stuck on some exotic piece of equipment. Close to home, LAB NEWS photographer Bill Laskar noticed this broken tree limb outside the Coronado Club. Guess what that stuff is that's wrapped around the broken section.



MILEPOSTS

LAB NEWS

February 1975



John Coleman - 9633

20



Phil Higgins - 9321

20



Mildred Hill - 9415

10



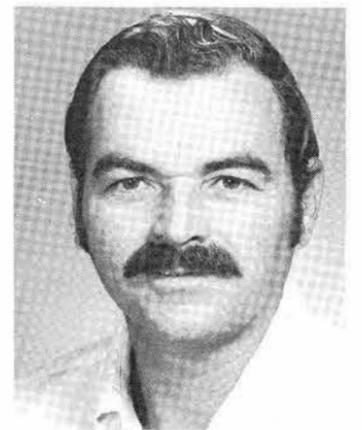
Donald Hoke - 9613

15



Homer McIlroy - 9713

20



John Stomp - 9333

15



Mary Hauer - 5226

15



George Andrews - 3623

25



Betty Hogan - 8261

10



Cecil Tucker - 9652

15



Moe Houk - 8161

10



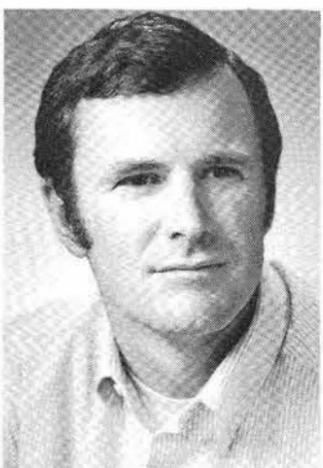
Ralph Wilson - 3620

25



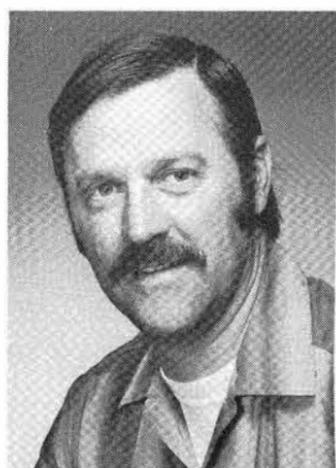
Mike Ferrario - 8432

15



John Liebenberg - 8157

10



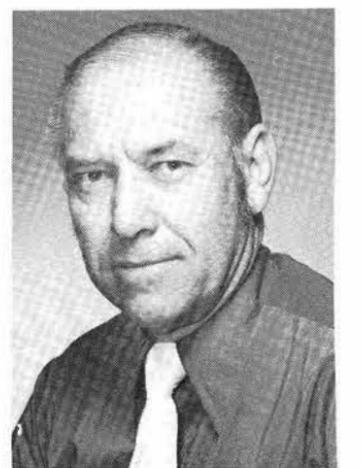
Fred Wymer - 1244

15



Jacob Bernal - 9717

20



M. L. Heisler - 9343

20



George Smith - 8345 20



Joseph Connell - 9521 25



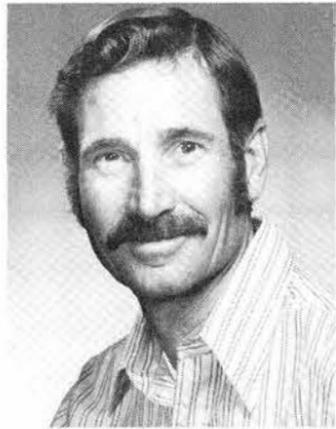
Helen Anderson - 9631 20



Dick Cook - 8433 20



Gabe Gutierrez - 8433 15



Don Bush - 2523 20



Richard Prairie - 1223 15



Alexander Beck - 9655 20



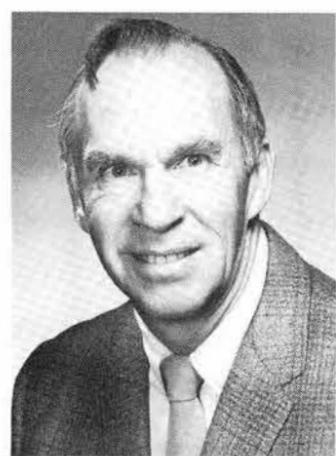
George Cosden - 3732 20



Raymond Kollman - 4142 20



Dwight Allensworth - 5131 15



Charles Champe - 9742 20



Charles Mills - 9743 15



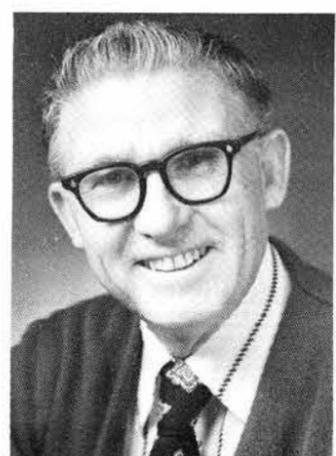
Edward Buksa - 9332 15



Jesse Floyd - 8257 25



Gladys Kimberling - 8264 15



George Mincks - 8257 25



John Wood - 3617 20



John Kelly - 5242 10



Ted Hebebrand - 8256 10



Willard Randall - 9718 20



Myron Pilat - 9512 20



Jane Lord - 3141 20



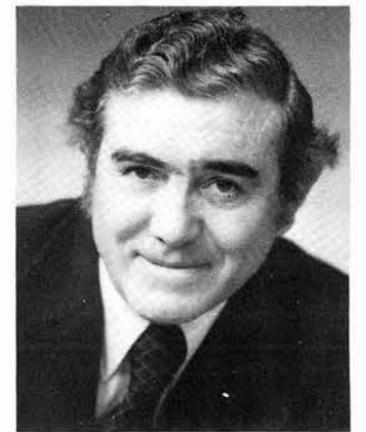
Art Trujillo - 5645 10



Paul Cooper - 2514 10



Jerry Durrie - 1523 25



Gene Springer - 8323 25



Phil Harrison - 5822 10



Dorothy Gray - 9631 15



Doyle Baker - 8183 15



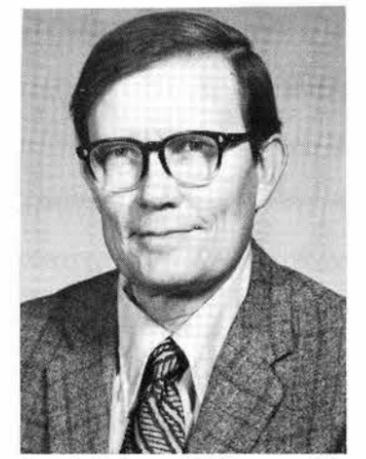
Robert Erickson - 9531 20



Dennis Benedict - 9754 20



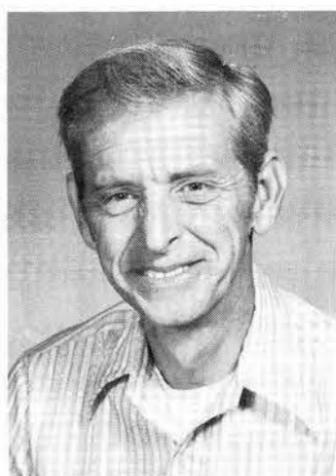
William Jacklin - 9334 15



Loyd Keller - 1537 20



Jack Renaud - 8213 25



Howard Lehman - 1511 15



Lou Baudoin - 9655 20



William Millard - 5624 10

Recreation Notes

FUN & GAMES

Sandia Bicycle/Runners Ass'ns. — "LSD is the way to go," so says Dr. Kenneth Cooper. The presiding guru of the cult of aerobics wasn't prescribing a drug. LSD has come to mean "long, slow distances" and Cooper, who was giving a talk at the UNM Med School, was prescribing a regimen — go for distance, not for speed.

His books on aerobics have sold six million copies, he's out of the Air Force, and he now runs a preventive medicine clinic in Dallas. His clients — they aren't really "patients" because they're not sick — come to the clinic for four hours of prodding, running, weighing and being peered at. When all the data is in, the staff then tells you just how "well" you are and, if you're the type who wheezes after a flight of stairs, they'll lay out an exercise program which, if followed, will eventually return you to the land of the physically fit.

Cooper in his lecture comes on with all the fervor of an evangelist in a revival tent and, in his own way, he is an evangelist. Now a world traveler, he spreads his gospel of physical fitness in a fast-paced presentation of statistics fleshed out with case histories. His brand of exercise stresses endurance activities — running, swimming, biking, walking — and, if you're that 97-pound weakling who gets sand kicked in his face, Cooper probably won't change you except for adding a little tone to your spindly muscles — he likes skinny people.

Cooper concludes with a quote that's comforting to those who feel the hand of age on their shoulder. He attributes it to Dr. Paul Dudley White: "It's possible to get healthier as you get older."

Handball Racquetball Squash Courts — With the continuing pileup of players awaiting courts at the base gym, the military have announced that all courts are available on a first-come basis from 11 a.m. to 1 p.m. "with challenging of winners to permit maximum usage." Unfortunately for civilians, military types only may reserve the courts after working hours, and there's little chance you'll find a vacant court during that time. This arrangement is vexing, putting it politely, but if you haven't learned that Labs people enjoy a less-than-exalted status over there, well then welcome to the gym.

Sandia Tennis Ass'n. — STA will hold its first doubles "drifter" tournament at the Indoor Tennis Club, starting next Friday evening, the 7th, at 10 p.m. (Court rates are cheaper late in the evening.) Play continues on Saturday the 8th, and the tournament is open to Sandia and ERDA people. Entry fee per team is \$5. Jean Langston (4210) will take you and your partner's entry, and she asks that you submit the entry to her by March 1.

John Walter (2326) has sent us details of the STA '75 tennis ladder. It's open to Sandia and ERDA people, offers both singles and doubles play, and three players may constitute one doubles team so that matches

may be more quickly set up. Ladder standings will be mailed to participants at least monthly. Once on the ladder, you may challenge players up to five rungs above you. Ladders offer wide playing experience. Call John on ext. 7390 for an entry form.

Sandia Golf Ass'n. — SGA is now signing up members for the '75 season. If you're interested, send your name, organization, building and telephone extension to Bill Brown (2141). A check for \$5, payable to SGA, should be included.

Sandia Table Tennis Ass'n. — Dale Breeding (1123) was director of the recent Table Tennis Tournament that was open to Sandia, ERDA, and KAFB people. In singles, Keith Treece (2314) defeated Bill Roady (5642) for the championship. The team of Dale Breeding and Keith Treece took Paul Longmire (1511) and V. Smith (KAFB) for the doubles championship.

ENERGY SAVINGS

COMPARED WITH USAGE IN BASE PERIOD— JULY 1972 THRU JUNE 1973
CURRENT REPORTING PERIOD ENDING JAN '75

	BASE PERIOD	1975	% SAVED
ELECTRICITY	56509 MWH	43418 MWH	23.2%
STEAM PLANT FUEL EQUIV. OIL	130496 BBLs	111656 BBLs	14.4%
VEHICLE MILES	1490000 MI	1088000 MI	26.9%

JUNK • GOODIES • TRASH • ANTIQUES • KLUNKERS • CREAM PUFFS • HOUSES • HOVELS • LOST • FOUND • WANTED • & THINGS

CLASSIFIED ADVERTISING
Deadline: Friday noon prior to week of publication unless changed by holiday.
A maximum of 125 ads will be accepted for each issue.

RULES

1. Limit 20 words
2. One ad per issue per person
3. Must be submitted in writing
4. Use home telephone numbers
5. For Sandia Laboratories and AEC employees only
6. No commercial ads, please
7. Include name and organization
8. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin

TRANSPORTATION

- '69 CHEV. 1/2-ton pickup, wide bed, new trans., tires, engine, \$1000 or let's deal. Harrison, 196-7880.
- '72 OLDS Delta 88, 4-dr., AC, PS, AT, vinyl top, new tires, 30,000 miles. Dalton, 299-3024.
- '72 MAZDA RX-2 sport coupe, PB, AC, 4-spd., radio, white vinyl top, new SBR tires, blue book \$2175, asking \$1850. James, 298-0709.
- '73 PLYMOUTH Duster, AT, vinyl top & gold body. Charley, 293-5020 evenings.
- '73 FORD LTD., 1 owner, low mileage, AM/FM radio & factory air. Thompson, 298-5800.
- '74 YAMAHA 360 Enduro, \$900 firm. King, 292-2693.
- '65 1/2-TON IHC pickup, V8, R & H, 4-spd. trans., electronic ignition, 2 gas tanks, overload springs, 68,000 miles, 34" high insulated camper shell, \$800. Alvis, 298-3906.
- '70 FIREBIRD Esprit, PS, AT, vinyl top, Rallye-II wheels, radio, lifetime battery, shocks, low mileage, NADA less \$200. Atkins, 298-5762.

- '70 CHRYSLER wagon, PS, PB, PW, air, new tires, 37,000 miles, 383 regular gas engine, below book. Brown, 296-9009.
- '71 FORD station wagon, luggage rack, PS, PB, new radio & tires, low mileage, 2 tone green, \$1875. Browne, 881-3772.
- '70 KAWASAKI 500 Mach-III w/fairing, 8800 miles, \$550. Davis, 821-8388 after 5:30.
- '70 PLYMOUTH Barracuda. Snyder, 881-8874.

MISCELLANEOUS

- TRASH bags, city-type, \$3.50. Books & records needed for S. Hwy 14 Village Project. Lab News Office, 832-20.
- TRUMPET, Getzen, Doc Severinson model, w/case, new \$450, sell for \$250. Whelchel, 299-1134.
- ROYAL portable typewriter, standard keyboard, w/case, \$20; snow skis, \$6; Japanese sword, \$55; want old walking cane. Smitha, 293-1177.
- MOBILE home, 70 x 14', 1 1/2 bath, 2-bdr., AC, heavy duty washer/dryer, 2 mo. old. Perryman, 292-1120.
- 40 WATT receiver, Girard 40B turntable, pair of 6" speakers w/horns, make offer. Yates, 292-2671, after 5.
- POWER plant, 1500 watt, 110 volt, 60hz; sewing machine cabinet. Day, 881-2664.
- VW tow-bar, new, \$30; wheel & tire, \$3; ski rack, new, \$15; buckle ski boots, mens 9-w, \$5. Johnson, 298-1011.
- WOOD lathe & bench, \$28;

- motor, \$10; accessories, \$5. Dieter, 255-8056.
- 35MM Pentax Spotmatic, 35mm & 200mm lens, electric flash w/charger, best offer. Wright, 296-2877.
- SKI boots, San Marco, ladies size 6, not used during last two seasons, \$35. Peterson, 298-1235.
- AIR COND. for pickup or car, complete w/hoses, compressor mount & drive assembly for 283 Chev. engine, \$75. Bland, 265-6286.
- CULLIGAN soft water unit, reconditioned, \$75, used 1 yr. Benton, 877-2473.
- LARGE 8-post swing set, complete, \$30; heavy duty Queen size bed frame, \$15; 2 twin size bed spreads, \$5 ea. Magnani, 299-8693.
- HEADBOARD, Ethan Allen king-size w/sliding door bookcase, \$140; 2 twin-size bed frames, \$10 ea. Hughes, 299-6674.
- PINBALL machine, needs work. Prevender, 299-5253.
- OLIVETTI Praxis-48 electric typewriter, office model, complete w/instruction manual, dust cover & spare ribbons. Hohimer, 298-1528.
- STUDENT clarinet, \$35; med. size girl's 3-spd. bike, \$30. EerNisse, 298-3968.
- SEARS Lady Kenmore portable dishwasher, \$45. Nelson, 867-2746.
- YASHICA Electro 35GS, auto. rangefinder type, f1.7 lens, new with warranty. Goddard, 299-6844.
- PIONEER QX-8000A 4-channel receiver, SQ & regular matrix, \$350. Garrison, 881-1851.
- WHEELCHAIR, 1 yr. old, cost \$160 new, \$75; bedside

- commode, \$10; collapsible alum. walker, \$20. Pedersen, 293-8199.
- COLOR TV, operates but needs repair, make offer. Cyrus, 898-4038.

WANTED

- MEDIUM-SIZE freezer, chest-type or upright. Thompson, 298-5800.
- RANCH oak bedroom suite; backpack outfit. Holly, 898-1777.
- DRAFTING machine, in good condition. Denison, 255-3535.
- INFO. about where I might be able to acquire several live roots of wild gourd plants for transplantation. Carnicom, 281-3421.
- FORD, Chevy or GMC 3/4 ton lwb pickup, V8-350 min. 4-spd., PS, radio, 40,000 mi. max., well maintained, no wrecks, approx. \$2500. Erdman, 298-3097.
- PELLET gun, CO2-powered or air-gun, rifle-type, dependable, attractive, and above all, reasonable. Hawkinson, 281-5239.

WORK WANTED

- BEGINNER classical or Flamenco guitar students. Melo, 268-7017.
- BEGINNING piano students, lessons in your home, low monthly rates, free introductory lesson. Copeland, 344-1133.

REAL ESTATE

- 5-BDR., den, multi-purpose room, 3 baths, single garage,

fully landscaped w/sprinklers in back, \$39,500. Stanley, 296-7623.

FOR RENT

- 2-BDR., attractive & clean, unfurnished, draped, appliances, washer/dryer hook-ups, NE section, utilities paid, no pets, \$170/mo. Duvall, 255-4678 after 5.
- 1-BDR., apartment, 1416 Edith SE. Silva, 247-9275.
- 3-BDR., 1 1/2 baths, fenced backyard, carpeted, stove & refrigerator, storage or work shed, carport. Thompson, 298-5800.
- 1-BDR. apartment, large, 600 sq. ft., elec. kitchen, carpet, AC, 127 General Arnold, NE, Apt. 2, \$121, water pd., no pets. EerNisse, 298-3968.
- 3-BDR. house, large yard, garage, 1 1/2 baths, fireplace, pitched roof, owner pays water, NE heights, \$250 mo. Hardesty, 298-4912 after 6:00.

LOST AND FOUND

- LOST — Gold Monet clip-on earring; wallet, brown; bi-focal sunglasses, silver frame; keys on paper clip; black wallet; trifocal glasses, metal frame; flexible keyring w/12 keys; sterling silver Parker ballpoint pen. LOST AND FOUND, Bldg. 832, 4-3441.
- FOUND — 3 keys; man's black glove; man's green glove; gold chain necklace; black leather key case; man's brown rim glasses in black case; lady's black glove; Kawasaki keys; lady's black rim glasses; pocket computer. LOST AND FOUND, Bldg. 832, 4-3441.

FRIDAY	SATURDAY
21 — HAPPY HOUR CHICKEN CORDON BLEU Adults \$2.75 Under 12 1.75 <i>Glad Rags on Stage</i> SHALAKO	22 — CARNIVAL FOR KIDS 11 a.m. - 3 p.m. TEEN DANCE SATIN FLAME 7:30 - 10:30
28 — HAPPY HOUR CHUCK WAGON BUFFET Adults \$2.95 Under 12 1.95 <i>Denny On Stage</i> ERNIE & THE SAINTS	1 — FAMILY VAUDEVILLE Clowns, Acrobats, Unicyclists <i>Hans Christian Andersen</i> Food @ 6; Show @ 7 FREE

NOTHING'S — more fun than Disneyland unless it's going with a great group at a good time — March 27-30. Airfare, hotel (3 nights), Disneyland entrance and 11 tickets, Marineland, Lion Country Safari (from D'land, it's *not* safari), free time for more Mickey-Mousing around. Adults \$179, kids \$110, open to all.

LIKE — to watch your tots having a great time? Tote them off to the Kids' Carnival — games and prizes and goodies and just 35¢ for 10 tickets. Admission free to members.

IT — happens at Wyoming Mall on March 15. It's not a celebration of Caesar's demise. It's the 4th Annual Starving Artists Fair. And it's a fund-raiser for the Aquatic Club (bus trips to swim meets deplete funds fast). All the art and all the crafts sell for under \$25 (and it's only 285 days till Christmas).

USED — to Ed Sullivan? Miss him? Relive the past with clowns, acrobats, unicyclists (live) at Family Vaudeville on the 1st. Danny Kaye too, in *H C Andersen*, the favoritest fairy tale teller of all.

TO — get in on the Bus Bash to Vegas, act soon. Fun begins the first mile, ends with the last. In between, The Castaways, The Strip, the glamor, the glitter, and the good shows that make Las Vegas exciting. Just \$99 for May 13-16. Or, try 11 times the fun for 10 times the money: a 15-day Mediterranean Cruise. *Deadline Feb. 25.*

BE — assured of a reservation on the big



TIRED OF CURLING up with a good book? Perusers Charley Mika (4275) and Karen Atwood (4256) are approaching terminal ennui, but C-Club has activities for all tastes, talents, and pocketbooks.

one to Lake Thun in spectacular Switzerland by reserving now. Package is large, all-inclusive, and (for the distance and accommodations) cheap: \$550 does it. It's hot here Aug. 18-26. . .

ESPECIALLY — propitious time to visit Tempe is March 13-16. Happens it's the NCAA 1st Round Playoffs, and you can join the Wolfpacker trip: bus yon and hither, 3 nights at Granada-Royale, game ticket, other

goodies. \$82 (dbl occ); non-members OK, but see any board member *soon*.

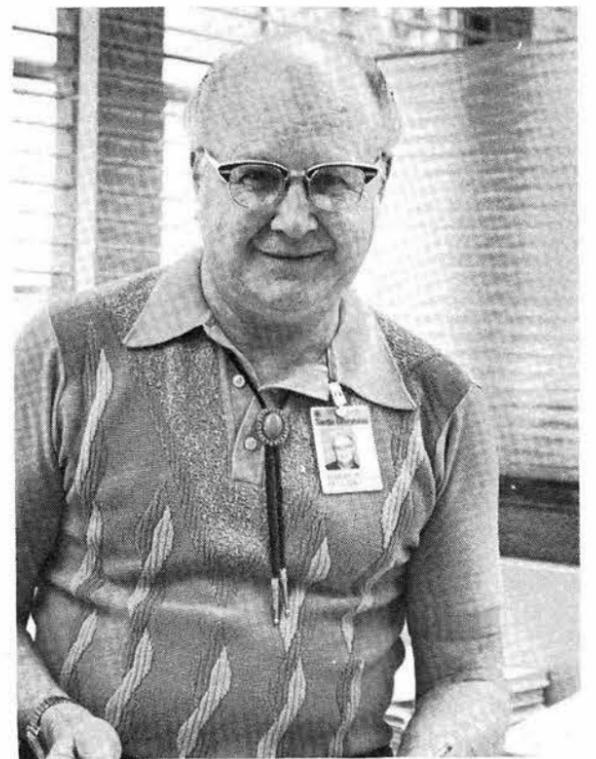
ME — heart's in Killarney, me body's at the Club. Irish or not, the St. Patrick's Day Spectacular will bring the Emerald Isle to East Albuquerque. Irish tenor Ben Grady will lead the sing-along of favorites; corned beef & cabbage, Mulligan stew, potatoes O'Brien, Irish coffee, and green (gag) beer. Members \$4.50, guests \$5, leprechauns free; *tickets by the 8th.*

● GLAD RAGS ● ACROBATS ● BUS ● DISNEYLAND ●

Retiring



Carl Klecotka (2633)



Billy Officer (9752)