



F. C. Childs

F. C. Childs New General Attorney For Sandia Corp.

F. C. Childs has been named General Attorney for Sandia Corporation effective July 1, succeeding Kimball Prince.

Mr. Prince will become Assistant General Attorney of Bell Telephone Laboratories, Inc. on July 1 and a month later will be named General Attorney for the Laboratories.

Mr. Childs joined the Western Electric Company in 1950 as an attorney in the General Solicitor's Group. Since April 1, 1957, he has been Assistant General Attorney for the Teletype Corporation in Chicago.

After receiving his AB degree from Brown University in 1939, Mr. Childs worked toward his LL.B. degree at Harvard Law School. Upon obtaining his degree Mr. Childs worked three years for a law firm in New York.

During World War II he served five years in the Army and was a commissioned officer in the Corps of Engineers. Mr. Childs has continued to be active in the U. S. Army Reserve and presently holds the rank of major.

He is a member of Phi Beta Kappa, American Bar Association and Harvard Law School Association.

Patent Granted on Device Invented by Sandia Employee

A patent for a variable time interval generator was awarded to the Atomic Energy Commission recently in the name of J. E. "Chuck" Gross (1413-1).

The device, employing more than 100 electron tubes, is used to calibrate and test precision timers and time measuring devices operating in the two to 200 microsecond time range.

The invention generates a precisely marked time interval upon command which is accurate to .005 millionths of a second (5 millionths of a second). The desired time is selected by a dial adjustment.

Sertoma Club Told . . .

Minute Tolerances Make Possible Today's Highly Mechanized Civilization

"The difference between the stone age and our civilization is one millionth of an inch," J. C. Moody (1651-1) told members of the Sertoma Club yesterday.

Title of the talk was "Tight Tolerances in Today's Metal Working Industry." Mr. Moody, supervisor of Length Measurements Section, discussed the production of man's tools and implements from the crude hand crafted stage to today's automatic production lines that turn out parts with tolerances measured in millionths of an inch.

This is the "one millionth of an inch" he was referring to above that makes possible today's complex mechanized society.

"The efficient performance of a part depends on a close approach to perfection," he said. He defined tolerance as the amount a part may deviate from perfection.

Sandia's 705 Keeps Stores Inventory And Writes Orders When Supplies Get Low

Sandia's EDPM 705 last week printed a steady stream of Sandia Corporation purchase orders. One of the last steps in the complete automation of the General Stores inventory was accomplished.

The purchase orders were complete in every detail of listing of the item, stock number, quantity, shipping instructions, supplier,

and cost. The need for the items had automatically been computed by the 705. The orders needed only the buyer's signature.

The event climaxed several months of handling by the 705 of the involved record keeping of the 12,000 items stocked in General Stores. It represented the combined efforts of Production Con-

trol Department (2220), Electronic Data Processing Development (4750) and Commercial Purchasing Department (4360).

Since last November all transactions involving items in general stores have been recorded on key-punched cards, converted to tape, and fed into the 705. Along with this was a master program

with instructions for the machine. As a result the 705 has kept tab of the inventory, issued records and reports, and notices for buyers to replenish stocks.

Contracts Negotiated

In the meantime, Contract and Purchase Service Division 4362, under A. M. Granum, using the information from the computer on general stores usage, has been negotiating contract agreements with various firms to supply items to Sandia on a contract basis to run for a year.

With contracts for more than half of the general stores items negotiated, a new program was prepared for the computer by M. P. Jemison (4751) to issue purchase orders when the inventory reached a minimum level.

"The new system saves Sandia Corporation time and money," according to Mr. Granum. "Suppliers now have the advantage of bidding on long-term contract agreements and can arrange their delivery schedules and stock their products accordingly. Orders for items on contract can be placed without further negotiation and much less time elapses from origin of requirements to delivery."

More Contracts

Purchasing is currently negotiating contracts with suppliers for the remaining general stores items and plans to expand the system into other areas of materials purchasing. Mr. Granum estimates that soon 90 per cent of all general stores items will be on contract agreements and purchase orders will be automatically handled by the 705 system.

Hal Brint and Tom Fox (both 4751) worked out the original program for general stores inventory control by the 705. At the time the system started the inventory was valued at \$912,000. With the new system providing up to the minute reports on inventory status and usage, the inventory has been reduced to \$656,000—considerable savings for Sandia Corporation.

The general stores program is run through the computer twice a month. The tapes are kept current with punch cards that record the day-to-day transactions of the inventory. The program requires only an average of four hours of machine time per month.



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PURCHASE ORDERS for Sandia Corporation general stores items automatically are printed by the EDPM computer as stocks of the items run low. The new system inaugurated last week is a final step in the automation of the record keeping in-

volved in handling the 12,000 general stores items. Examining the orders are (L to R) M. P. Jemison (4751), computer programmer, Don Lucas (4362), purchasing buyer, secretary Marion Schifani (4362) and Benjamin Garcia, Jr. (4752), machine operator.

'Rescue Breathing' Gets Credit For Saving Still Another Life

Another life has been saved by a Sandia employee through use of the "mouth-to-mouth" artificial respiration. Donato Lovato, who used the system on an eight-year-old neighbor, reports he learned the method from a movie "Rescue Breathing" shown him at Sandia

and by reading several articles.

Don, a Sandia tool crib operator (4512-2), was working in the garden of his home at Lajoya, N. Mex., last Friday evening, when he heard his neighbor, Mrs. Barela, screaming that her daughter had drowned.

Don rushed into the Barela home and pulled the young girl from the bathtub. He remembered seeing the movie on rescue breathing only the week before and tried the mouth-to-mouth method of respiration. In about 10 minutes the girl opened her eyes. She was unable to tell what had caused her to slide beneath the water.

Mrs. Barela later explained that

the girl, Christine, was playing in the bathtub while she worked in the kitchen. Suddenly the splashing stopped. There was no answer when she called the girl's name. Although the bathroom door was latched, Mrs. Barela was able to break in. She found the child unconscious, on her side with her face under water.

The Sandia Lab News reported a previous instance where the "rescue breathing" method was credited with saving a life. In the May 1 issue, Grant Howard (2543) reported how he used the method to resume his infant son's breathing.

Sandia Corporation Has 'Royalty' On Roll as Princess Is Crowned

A charming Sandia summer hire was crowned New Mexico Dairy Princess at festivities at the Western Skies last week. Judy Christianson (4621), a personnel record clerk, will reign for a year as representative of the dairy industries of New Mexico.

In addition to a \$500 scholarship, Judy will be honored with

appearances throughout the state at New Mexico Dairy Council functions. She attended the grand opening of a new creamery in Farmington last week.

Judy will return as a sophomore next fall to the University of New Mexico where she will continue her education for a teaching career. She has her sights set on being a high school history teacher.



Judy Christianson
—New Mexico Dairy Princess—

Three Degrees Awarded To Livermore Sandians

Three Sandia employees at the Livermore Laboratory received Associate of Arts degrees during June.

George Byars (8232-2) received his degree in graphic arts from Oakland City College where he has been attending night school for several years.

Karl E. Tucker (8224-1) was awarded his AA degree in accounting from Diablo Valley College. He plans to continue his education at San Jose State College with a goal of a BA degree in accounting.

Robert L. Walker (8222-2) also graduated from Diablo Valley College with an AA degree, and plans to continue working towards an AD degree in mechanical engineering.

Dr. W. R. Lovelace Speaks to Members Of Sanado Club

"Medical Tests for Space People" will be the subject of a talk by Dr. W. R. Lovelace II before Sanado Club members at a sherry luncheon on July 7, 2 p.m. at the Coronado Club.

Dr. Lovelace will discuss medical and biological aspects of the Mercury (man-in-space) program.

Hostesses for the luncheon are Mrs. Harry A. Weber and Mrs. Rolin Shaw with the decoration committee headed by Mrs. L. E. Mahuron.

We Are Doing Something —

There's one thing sure about the international situation—it's always with us.

Today, we have the tense moments that have been with us since the beginning of modern history — and no doubt were common back in ancient history. We have differences between peoples that are of explosive quality. Surely someone wrote such words back in the days of Napoleon, Bismark, Ghengis Kahn and Julius Caesar.

The only difference is that now man has within his power the ability to do away with man. The Dark Ages, The Crusades and World War I saw a good move in that direction. But gunpowder and disease couldn't do it alone.

Significance of the New Force has placed a greater burden on the men who do the talking — the negotiating. And negotiators of the international differences are most effective if people "back home" are well informed. Someone has said that an intelligent, knowledgeable citizenry means a strong nation.

This puts a double responsibility on the Sandia Corporation employee. We are asked to be well informed on the events of the world so that we can wisely and judiciously exercise our rights as citizens of a democracy. And we must also come forth with unequalled job performance for Sandia — and our country. If our accomplishments are ever equalled or surpassed (may it never happen) our nation will slide into an even more precarious position.

Sandia employees are not alone in this. Included are all persons who are working in the nuclear weapons program of the U. S. Government. They all have this dual duty. It's not an easy burden to bear.

There are two things keeping the enemies of the Free World at bay. They are not the miles between the countries nor the numbers of men in our armies. Keeping our adversaries' bombers and missiles on the ground is fear of the strength of an intelligent, informed and stalwart people and also the nuclear weapon retaliatory power they possess.

Both of these responsibilities rest heavily on Sandia employees.

Congratulations

Born to:

Mr. and Mrs. Tom Smith (4743) a daughter, Debra Ann, on June 11.

Mr. and Mrs. W. E. Walker (5143) a son, David Albert, on June 1.

Mr. and Mrs. S. W. Clayton (5257) a daughter, Karen Marie, on June 5.

Mr. and Mrs. R. D. Golding (1622) a son, Harold Alan, on June 14.

Mr. and Mrs. David H. Davis (4752) a son, David Ralph, on June 10.

Mr. and Mrs. John G. Stathis (4751) a daughter, Barbara, on June 1.

Mr. and Mrs. Max Pons (2711-2) a son, James Lee, on June 17.

Mr. and Mrs. W. L. Stevens (1264-1) a son, John Wallace, on June 15.

Mr. and Mrs. H. A. Bennett (1262-1) a son, Edward, on June 6.

Mr. and Mrs. John Ford (1247) a son, Jeffrey William, on June 19.

Heads Scout Troop

Ernest Lovato (2231) is the hard-working institutional representative of Boy Scout troop 118, sponsored by San Jose Parish.

This troop, organized only one year ago, has grown from the original 24 boys to 42 members now. All the boys have uniforms and many merit badges have already been earned. One boy has earned the Star Scout award and four others are First Class Scouts.

Ernest recently accepted the troop's charter for their second year plus the Green Honor.



Shirley McPeters (4623)

Take a Memo, Please

Carelessness and failure are twins. It also follows that care and success go hand in hand. Base your life in the latter for lifelong safety.

Cupid Claimant

Congratulations are in order for Al Purington (2231-3) on his recent marriage in Santa Fe to Marybelle Stephens of Albuquerque.

Jean Lucas (2231) is claiming honors as cupid for introducing this couple as well as two others who later married.

When Elden M. Shonka arrived at Sandia to manage the Auditing Department he already had the required Western attire: a 10-gallon Stetson. The hat was presented to him before leaving Fair Lawn, N. J., when the Shonkas were honored by 250 city officials and friends at a farewell dinner. Mr. Shonka had been a member of the Borough Council there for 11 years and was a former deputy mayor.

In Albuquerque Mr. and Mrs. Shonka have moved to Route 5, Box 5437A, Tijeras Canyon. Wives of organization 4120 personnel held a welcoming coffee for Mrs. Shonka on June 16.

Toothache Tale

H. B. Young (4422), Sandia's versatile writer, will have another article published in All Pets magazine which will be on the newsstands around the first of August.

Mr. Young has written for mystery as well as religious publications, but this time his topic is a dog's toothache.

Project Division Project

Employees of Division 1246 feel that their record of one birth each month for the past year came to a fitting climax on June 14. Mr. and Mrs. John A. Anderson (1246) became the parents of twins—a boy and a girl—on that date.

Translations Reward

A little bit of learning has paid off for W. T. Holmes (1282). Since last fall he has been a student in the Corporation sponsored noon hour class in Russian taught by Marcel Weinreich (4721-1).

A California publisher of scientific and technical material sent out a brochure of new books and offered a prize to the first 10 persons to translate correctly a passage in Russian. Mr. Holmes mailed off his translation and won a Russian-English dictionary of technical terms.

Get Well Wishes

Get well wishes are extended to Howard Sloane (2723-3), who is convalescing from a recent illness.

Wishes for a speedy recovery are also extended to E. L. Harley (5311), who underwent an emergency appendectomy on June 17.

New Homes

F. L. McFarling (2533-2) and his family have moved into a new home at 9432 Arvilla NE.

Spring is a popular moving time for members of Section 2711-2. Max Pons and his family are settled at 719 Dallas NE while George Shelton and his family now live at 1202 Saint St. NE.

The northeast area is also favored by Mr. and Mrs. T. M. Sedgwick (1265-2). They recently moved into their new home at 3421 Parsifal NE.

Les Johnson (4254-1) and his family recently moved into their new home at 11508 Constitution NE.

New home owners in division 2543 are D. S. Pitts, whose address is now 1008 San Pablo NE, and John M. Middleton at 9908 Robin NE.

June has been the month for moving for 4250 employees. Among those with new homes are Ray Negus (4251-2) at 320 Mankin St. NE; James Taylor (4253-2) at 9608 Conchas NE and John Newton (4253-1) at 4913 Hilton Ave. NE.

There's also a new address for Mr. and Mrs. Art Littleford (5313), who have moved to 4801 Goodrich Ave. NE.

John S. Talbutt (5531) and his wife are enjoying their new home at 424 Mankin NE overlooking the golf course.

Ruth (8232-1) and Jessie H. Burns (8121-3) recently moved into their new home at 383 Martin Ave., Livermore.

Other new home owners at Livermore are Sharon Watson (8212-3) and her family who are now settled at 207 Albatross Ave.



DISPLAYING THEIR DAY'S CATCH of black snappers, capazons, and abalone are skin divers Chuck Traver (LRL) and Tom Brumleve (8141-2) of the "Vaqueros del Mar," California sportsmen.

Pacific Plunging — Or Skin Diving — Damp Hobby of 'Vaqueros del Mar'

Plunging into the Pacific waters is regular week-end sport for three Sandia members of the "Vaqueros del Mar," a skin diving club sponsored by the Livermore Area Recreation District.

Club President Tom Brumleve (8141-2), a veteran skin diver, recently returned from a trip to Pigeon Point, about 40 miles

south of San Francisco, with photographic proof that it pays to fish under the surface. With water temperatures varying from 55 to 65 degrees Fahrenheit, Tom and his fellow divers went down to depths of about 20 feet for their fishing activities.

Other Sandians in the 30-member skin diving club are Mary Claire Ayen (8114-1) and Dick Cook (8161-1). Their club meets each week at the Livermore high school pool for intensive instruction in the underwater sport. They are thoroughly checked out on the "scuba," which means self-contained underwater breathing apparatus. Fundamental skin diving classes are conducted every Monday evening.

Camera Club President

T. A. Allen (2231) has been elected president of the Enchanted Lens Camera Club. Vice president is Leroy Hassebrook (5541).

Weddings and Engagements

Geraldine Whiteman (2723-3) was married June 6 to Pierre Costello of Albuquerque in the Chapel of Our Lady of Annunciation.

The couple spent a short honeymoon in Santa Fe and is now residing at 1828 Blume NE.

Agnes Vigil (4431-1) and Jack Birosak were married May 30 at



Mr. and Mrs. Birosak

the Kirtland Air Force Base Chapel.

Agnes has been assigned to 4411 during the three years she has been employed by the Corporation.

The couple is living at 1611 Lead SE following return from a wedding trip throughout northeastern New Mexico.

Help Wanted

Two girls are needed to work during the noon hour at the cafeteria in Bldg. 839. No experience is needed but a "Q" security clearance is required. In addition to an hour's pay a free lunch is furnished. For further information contact O. J. Foster (4622) at ext. 29157.

Sympathy

To Estella Baca (2241) for the death of her sister in Belen on June 1.

To John R. Lovelace (1622) for the death of his father at Cape Girardeau, Mo., on June 11.

To Fayne Shead (2621-1) for the death of his father on June 10.

To Evelyn Quigley (4621) for the death of her father recently in Pennsylvania.

To Jose F. Salazar, Sr. (4512-2) and Jose F. Salazar, Jr. (4212) for the death of their daughter and sister June 7 in California.

To Walter W. Tillman (4251-2) for the death of his brother on June 15 in Wisconsin.

To Ralph E. Ridenour (4424) for the death of his mother in Weslaco, Texas, on June 3.



BOY SCOUT CHARTER for Troop 118 was recently accepted by Ernest Lovato (right) from Col. Francis Wood, representing the Kit Carson Council. The Troop was organized one year ago.



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CORONADO CLUB officers and directors are shown here at the first meeting of the new term. Seated from left are A. F. Cone (5510), president; Ruth Wood, recording secretary; Frank Abbott (AEC), appointed AEC representative; Noble Johnson (4622), representing Sandia Corporation for W. G. Funk (4620) and J. D. "Tex" Yates

(AEC), treasurer. Standing are Russell Martin (1264), A. C. Taylor (4254), Dick Jones (4412), Jack Hansen (4411), Joe Deveny (1232), vice president, Harold Schulte (4411), secretary, Tommy Kelly (2552) and Nick Bontempi (4412). Committee chairmen and assignments of new board members are told in accompanying article.

A. F. Cone Heads Coronado Club

Coronado Club Board of Directors has chosen officers for the coming year and appointed committee chairmen.

A. F. Cone (5510) is the new president, J. E. Deveny (1232) will serve as vice president, Durwood Yates (AEC-ALOO) is treasurer and Harold Schulte (4411), secretary. F. E. Abbott and W. G. Funk (4620) are appointed representatives for the AEC and Sandia Corporation, respectively.

Committee heads are: Mr. Deveny, bar; R. A. Jones (1412-5), bingo; J. N. Hansen (4411-4), publicity and decorations, furniture and equipment; R. A. Martin (1264), entertainment.

Other committee chairmen are: A. C. Taylor (4254), membership and bylaws; Nick Bontempi (4412), indoor recreation; T. A. Kelly (2552), outdoor recreation.

Language Student Speaks

'We Must Know Russians Well If We Are To Get Along With Them'

"The better we understand the Russians, the better we will be able to negotiate with them."

That sums up George Volda's reasons for studying Russian. George is supervisor of Printed Wiring Section 1462-1 and since last fall has taken the Corporation-sponsored class in Introductory Scientific and Technical Russian offered during the noon hour.

He is perhaps typical of those employees who continued with the study through this month. Although many of the original students dropped out for various reasons, the final test pointed up

what could be accomplished in a short period.

Instructor Marcel Weinreich (4721-1) gave the employee-students their choice of translating with the aid of a dictionary one page of any technical or scientific journal in their respective field. Since the students included physicists, mathematicians, engineers and non-technical personnel, as well as a lady meteorologist and her boss, the subjects were varied.

The test represented realistic situations which will be encountered from now on in the students' efforts to read current Russian publications.

"There's no denying the language is difficult to learn," according to George. "I have already studied German and Spanish and speak Rumanian, my native tongue, fluently, but even simple Russian words are long and hard for Westerners, without a Slavic language background, to pronounce."

"When it comes to technical terms many of the words are German or French, which have been the basic Western science languages since the time of Peter the Great. However, in recent years many of these terms have been 'Russianized' and others have originated in Russia. For instance 'Sputnik' is the word in the Russian language meaning 'satellite' and is not slang or a word especially coined for the event."

George continued explaining, "I've been interested for many years in learning Russian and feel that in a community of nations where we must live closely together, communications are very important. If we can't understand each other, we can't express ourselves or expect to be understood by others."

Rose Honors

Add the name of Fred Magee (5313) to the list of rose fanciers. He won a first prize at the recent Albuquerque Rose Show with a Baby Masquerade rose.

Length of Service Of Sandia Employees Shown in Analysis

Nearly 12% of Sandia Corporation's 7800 employees have been with the project since the Corporation was established Nov. 1, 1949. Considering the fact that the total on-roll at that time was only about 1800, this means that half of the oldtimers are still here.

A total of 6088 employees have worked at Sandia at least two years, which is 78% of the total number of employees.

Of this number, 910 employees have been here since Nov. 1, 1949.

Included in the 6088 figure are nine employees with 15 year service pins, 792 with 10 year pins, 2953 with five year pins and 2334 with two year certificates. Recognition is given for service prior to the establishment of Sandia Laboratory if that service was in the nuclear weapons program.

Sandia's Service Recognition Plan was initiated in August 1955. A contest was held to determine the emblem design which would appear on the service awards. The choice narrowed to four finalists, and the winning design was the colorful and symbolic Thunderbird in turquoise enamel on a copper background.

H. C. "Clyde" Walker (8123) submitted the winning emblem.

Two Years in Spanish University Slated for Sandia's Philix Aragon

A dream of many years will come true next month when Philix Aragon, a Sandia messenger (4764-2), leaves for two years of study at the University of Madrid in Spain.

Philix will sail from Montreal, Canada, July 28 on a Danish ship and then will take the train from Le Havre, France, to Madrid. He plans to live with a family during his stay in Spain.

A native of Los Lunas, he studied for the priesthood for three years at St. Francis Seminary in Cincinnati. Upon returning to New Mexico Philix attended St. Michael's in Santa Fe for a year before entering the Army for two

years' service, mainly in the Far East.

After discharge from the Army Philix attended the University of New Mexico and has continued to carry a full load of evening courses the past year while working for the Corporation.

"My major is languages with a minor in government," he said, "and since I already speak Spanish and am interested in Spanish culture I felt it would be worthwhile attending the University of Madrid. After I have established a record there I hope to get a scholarship of some type, but until then I have my savings figured pretty closely."

Institute of Radio Engineers Elects Officers



Robert Spence
—chairman—



Robert Creveling
—vice chairman—



Allen Church
—treasurer—

Robert Spence Named Chairman IRE Section

Sandia Corporation employees made almost a clean sweep of offices for the Albuquerque-Los Alamos section of the Institute of Radio Engineers during recent balloting.

Robert Spence (5223) was elected chairman, Robert Creveling (1413) was chosen vice chairman, and Allen Church (1265-1) is the new treasurer.

The officers were installed June 13 during the section's annual picnic in the Jemez Mountains.

Chess Fans May Flex Abilities by Mail in Bell System's Tournament

Sandia Corporation chess players, novices or experts, are eligible to enter the 13th annual Bell System postal chess tournament.

The nationwide through-the-mails competition is open to both active and retired employees by writing: Chess Tournament Director, American Telephone and Telegraph Co., Room 1338, 195 Broadway, New York 7, N. Y.

There is no fee for joining the competition, but entries for tournament play must be in by July 15. Entrants are asked to rate their

game—above average, average or below average — so that seven or eight players may be matched as evenly as possible for a section. Each player will engage all other members of his section in combat simultaneously.

Players scoring highest percentage of wins in each section will be awarded a victory certificate and a point system will enable players to progress to higher ranking sections in future tournaments.

Entrants may compete in one, two or three sections.



GENERAL ATTORNEYS, past and present, for Sandia Corporation are pictured above at a meeting held here recently. L to R: F. E. Dewey, now General Attorney, Western Electric Co., New York

City; Kimball Prince, who leaves Sandia effective July 1, will become General Attorney, Bell Telephone Laboratories August 1; F. C. Childs, who will replace Mr. Prince, and P. D. Wesson, retired.



BURNS CAUSED by molten aluminum spot C. C. Riley's face, but he considers himself lucky because safety glasses protected his eyes from harm.

Molten Aluminum Sears Face As Eyes Are Saved By Sandia Safety Glasses

Judging from burns on the face of C. C. Riley (4221-4) it's not hard to imagine how badly his eyes could have been injured by molten aluminum if he hadn't been wearing safety glasses.

"Riley" works in the foundry in Bldg. 840. On June 13 a crucible full of aluminum had been removed from a 1400 degree furnace. As Riley started to use a skimmer to remove impurities the molten metal splashed on his face. His face was burned but safety glasses protected his eyes. The lens and frame were covered with the metal.

He explained the cause of the accident this way: "Skimmers are customarily pre-heated before they are used. This one was not and moisture had formed on the lip. When that cold liquid touched the hot metal it was like dropping water in a sizzling

frying pan. It almost exploded!" Although the accident occurred at 10 a.m., Riley was back on the job at 1 p.m. He has worked in a foundry for 24 years.

Riley is perhaps best known as Sandia's flying foundryman and he remarked, "I was plenty worried about whether I'd ever be able to pilot a plane again."

He owns a single engine, two-passenger Luscomb 8F and has flown every week for about 11 years. Trips have included San Francisco seven times, Denver, El Paso, and frequent jaunts to Eagle Nest, N. Mex., where he has relatives.

"My main hobby, though," Riley said, "is taking people up for their first flight. I've had passengers from six months old to 84 years. My 'first timers' now number 210 and there have been about 175 others who had flown previously."

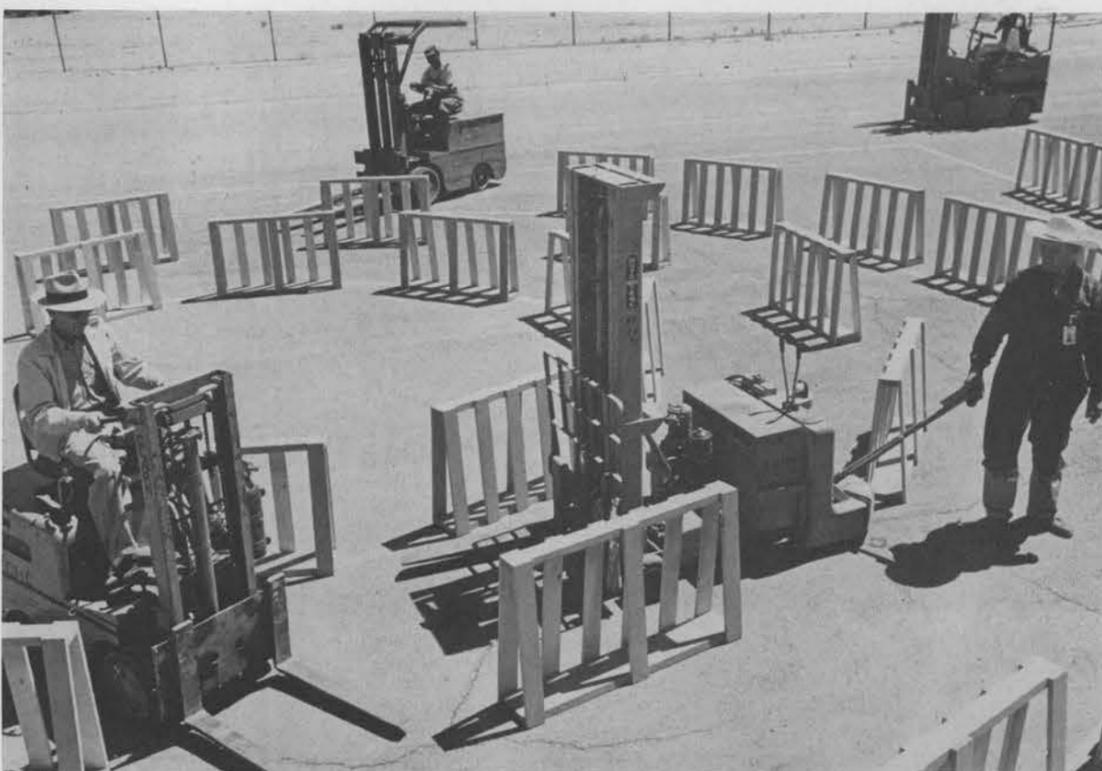
Welcome—

Newcomers to Sandia Corporation

June 8-19

- Albuquerque Ramon Archibeque 4574, Elsie N. Allen 4761, Evelyn L. Amos 4623, Herbert D. Arlowe 1614, Judith P. Bishop 4622, Betty T. Collett 4623, Fred Cericola 1611, Percy L. Doucett 4623, Jenice E. Fuqua 4623, Maximo Martinez 4764, R. Claude Marsh 2555, Miriam M. Myers 4623, Crin N. Pederson 4763, Clovis V. Ritchie 2562, Catherine M. Smith 2711, Delois D. Sumter 4631, Marjorie J. Thiel 4623, Mary H. Wolfe 4623, Marilyn L. Wagner 4431, Arkansas John W. Allen, Jr., Fayetteville 1455, Max L. Steele, Fayetteville 1613, California Gordon G. Bennett, Hayward 8124-2, Sharon K. Kisher, Lafayette 8233-2, June F. Ridge, Brentwood 8213-2, Joseph J. Fox, Pleasant Hill 8225-2, Judith D. Bryant, Antioch 8212-3, Raymond C. Roy, Redondo Beach 4132, Georgia Gerald M. Goralczyk, Atlanta 5523, Illinois Charles T. Duffey, Libertyville 8152-2, Donald E. Roelle, Tinley Park 5233, Indiana David A. Byrne, West Lafayette 5141, Charles R. Hargraves, West Lafayette 5144, Kansas Phillip F. Garberich, Manhattan 1624, Gerald L. Lane, Topeka 5242, Robert D. Moyer, Coffeyville 1542, Missouri Melvin D. Clark, Columbia 5522, Roland L. Parrish, Columbia 1282, New Jersey Johan Balinfante, Princeton 5150, New Mexico Clifford K. Diem, Portales 5513, Herman J. Von Steeg, Los Alamos 8223-1, William A. Lovato, Los Lunas 8222-2, Larry C. Mixon, State College 5521, New York Alan E. Fairbanks, Alfred 1474, North Carolina George W. Hoyle, Newton 5232, North Dakota Donald W. Fuhrman, Fargo 1264, Ohio Fred G. Karkalik, Cleveland 1464, Oklahoma Clem D. Gragg, Norman 1215, Texas Ronald I. Ewing, Houston 5150, Hilding G. Isaacson, Fort Worth 8142-1, Washington Cline W. Frasier, Colfax 1284, William O'Rourke, Seattle 8151, Wisconsin Robert C. Walter, Beloit 2532, Wyoming Garth H. Foster, Green River 8123-1

- Returned from Leave Merry C. Campbell, Albuquerque 5321, C. Leroy Hansen, Albuquerque 2561, James M. Haines, Albuquerque 4253, Adela J. Vigil, Albuquerque 4766, Arthur K. Rue, Berkeley, Calif. 8122-1, Mary Beth Eastman, Albuquerque 2225, Robert P. Fjelsted, Albuquerque 4132, David K. Overmier, University Park, Pa. 5221, Temporary Summer Hires Judy L. Abbott, Albuquerque 4623, Karen J. Anderson, Livermore, Calif. 8212-3, Glenn E. Anderson, Lincoln, Neb. 5511, Kenneth R. Applegate, Albuquerque 5112, Charles B. Allen, Albuquerque 5112, Lois M. Arnold, Albuquerque 4623, Donald E. Ashland, Albuquerque 4764, Margaret Ager, Albuquerque 4623, Sally A. Beavers, Albuquerque 4333, Sharon Beeson, Albuquerque 4623, Annette Benninghoven, Albuquerque 4623, P. Susan Bishop, Albuquerque 4623, Wolfgang G. Braun, Albuquerque 5112, Donna J. Brown, Albuquerque 4362, Lynne E. Belka, Albuquerque 4623, Harold R. Baldwin, Livermore, Calif. 8222-2, Edward G. Bauer, El Cajon, Calif. 4753, Anthony Bedford, Austin, Tex. 5142, Byrl Blount, Jr., Albuquerque 4413, William D. Burnett, Pasadena, Calif. 5112, Charles P. Campbell, Albuquerque 4518, M. Ann Cartnell, Albuquerque 4653, Judith L. Christianson, Albuquerque 4621, Charles E. Canada, Lexington, Ky. 1652, S. Arthur Cone, Albuquerque 4413, Betty N. Chavez, Albuquerque 4623, William R. Davis, Albuquerque 5112, Marilyn J. Dunn, Albuquerque 4623, Marvin M. Duphorne, Albuquerque 4412, James W. Dally, Ithaca, N. Y. 5150, Norman E. Dell, Albuquerque 4411, Josephine Del Mastro, Albuquerque 4752, Cynthia A. Dempsey, Albuquerque 4964, Eleanor F. Dial, Albuquerque 4623, William H. Dodson, Laramie, Wyo. 2541, Roger F. Dashen, Cambridge, Mass. 5112, George W. Day, West Lafayette, Ind. 5122, Duane L. DeWerra, Lawrence, Kan. 4543, Judith L. Dodd, Albuquerque 4113, Harold E. Ellithorn, South Bend, Ind. 1463, Janet E. Enns, Albuquerque 4623, Judith R. Gardner, Livermore, Calif. 8161-3, John C. Garrison, West Lafayette, Ind. 5150, Earl R. Gruer, Albuquerque 5131, Ira H. Gilbert, Brooklyn, N. Y. 1451, Edward K. Greenwald, Columbus, Ohio 5221, Dolores S. Garcia, Raton, N. M. 4623-6, David R. Harrington, Pittsburgh, Pa. 1626, Gerard W. Hauer, Jr., Albuquerque 1612, Henry G. Hermes, Jr., Albuquerque 5126, Maximo Hernandez, Jr., Albuquerque 4518, Barbara D. Hoeks, Albuquerque 4623, Winifred M. Horne, Albuquerque 4333, Harry C. Hardee, Jr., Austin, Tex. 1473, Patricia L. Harney, Albuquerque 4623, Morys H. Hines, Jr., Albuquerque 4411, R. Jack Hansen, Albuquerque 4412, Robert E. Iden, Albuquerque 4961, Ann M. Jumper, Albuquerque 4623



ACCURACY AND SAFE OPERATION are emphasized in Sandia's fork lift operating course. Maneuvering fork lift vehicles are (L to R) Solomon Apodaca (4221), Juan Gabaldon (2711), (rear) Jessie Waddles (2232) and C. L. Sanchez (2227). Lecture and practice course lasts three days.

Marcel Weinreich to Teach Russian II for USAFI on Sandia Base

At the request of the U. S. Armed Forces Institute, Marcel Weinreich (4721-1) is teaching an advanced and concentrated course in Russian on Sandia Base. The course started June 15 and will continue to July 31, meeting two and one-half hours each session, three times a week. Marcel has previously taught Russian at the Corporation and at Kirtland AFB Educational Division.

Fork Lift Operators Polish Skills With Three-Day Refresher Course

A complicated maze of wooden barriers is being used to test the skills of Sandia's fork lift operators. The barriers, located south of Bldg. 892, mark off a difficult test course. Skilled operators wind their awkward-appearing vehicles between the barriers with scarcely a paint scratch.

The activity is part of the refresher course in operation of fork lifts being offered already qualified drivers in various organizations. The three day course includes eight hours of class work presented by Frank Sayner of the General Training and Education Division 4632 and two to three hours of actual practice in use of equipment representative of that used on-the-job.

The seventh class recently completed the course. Eventually 285 men will complete the training, which emphasizes safety along with skill in operation.

SOFTBALL STANDINGS

Table with columns: Team, American League (Won, Lost), National League (Won, Lost). Lists teams like 4400-I, 1600, 5200, etc.



SKILLED TOUCH maneuvers a load of metal drums. C. L. Sanchez (2227) demonstrates skill during fork lift practice session.

'Annals' Takes Article From E. J. Gilbert

Edward J. Gilbert (5125) has received word that a technical paper he wrote has been accepted for publication in the September issue of Annals of Mathematical Statistics. His paper is entitled: "The Identifiability Problem for Functions of Finite Markov Chains."

Shorthand Classes

Effective immediately, the speed building classes in shorthand, which have met in Bldg. 302 on Friday during the noon hour, will be held on Monday and Wednesday noons.

Those classes which met in Bldg. 892 have moved to Bldg. 880, room 100, on Tuesday and Thursday noons.



Sandia Corporation Has Worked 11 Days Without a Disabling Injury

HERE'S WHY...

Our employees know safety is more than worrying. It's thinking and acting and following up on their actions. And it's not part-time or seasonal either. Safety is a 24-hour-a-day proposition, with no layoffs and no vacations.

* Denotes Rehired

'Move' Heavy Load With Your Head Advises Qualified Expert

Reprinted from the Journal of the American Association of Industrial Nurses.

Even if you are not officially changing residence, the chances are that you will still be "moving" during the next few months. There's that spare couch upstairs that was so handy on the porch last summer, for instance. And those large rocks you saw last Sunday which would be ideal for the new barbecue pit. Or, wouldn't the living room sofa be better over on the east wall now, because you can see the garden from there?

Whether your task is a complete relocation, just shifting the piano to paint the woodwork, or moving cartons and such on the job, you can do it more easily if you move it with your head.

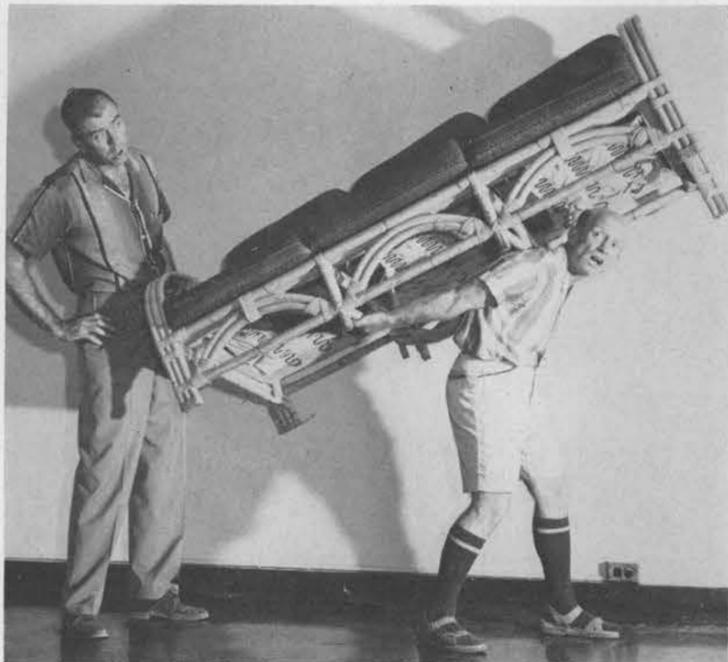
How? Like the professional movers do! According to one of the nation's largest movers of household goods, here are the basic rules their moving men observe to avoid strains, muscle aches or serious injuries.

1. Size up the load first. Don't be a hero and try to lift it alone if there's any doubt about your ability to do so.

2. Make sure your footing is secure. Get a good balance, with your feet 12 inches apart. Keep the strain off your back muscles by standing close to the base of the article you're lifting.

3. Now you're ready to lift. Bend the knees outward and straddle the load somewhat, keeping the back as straight as possible. Start pushing up with your legs, using the strongest leg muscles. Keep the load close to the body as you come up to carrying position.

4. If you have to change direction when in the upright position, be careful not to twist your body.



USE YOUR HEAD when you lift, then moving won't be a pain in the neck. Paul House (left) and Jim Walston (both 4763) call your attention to the accompanying article which advises you to "move it with your head." Get help when moving job is too big.

Turn with changes of foot position.

5. If your load is to be placed on a bench or table, place it near the edge—make the table take part of the weight. Then push it forward; your arm muscles, not your back, should be used for the pushing.

6. When the object is to be placed on the floor, from a waist-high carrying position, bend your knees first. Then, with a straight back and the load close to the body, lower it with the arm and leg muscles doing the work.

7. Whether working alone or

with a partner, always keep your line of vision clear, and carry only what you can see over. Take it easy on polished floors, and remove scattered papers, small throw rugs or unsecured floor runners from your path.

A final word of caution: if you have high blood pressure or heart trouble, lifting can be dangerous. Check with your doctor.

But, if you have your health and use your head, moving won't be a pain in your neck—or anywhere else, says the world's largest mover.

AEC Receives Bid of \$36,754 For Addition to Tech Area Building

Apparent low bidder for construction of a 2,500 sq. ft. addition to Bldg. 868 is the Bill Stuckman construction firm of Albuquerque, the AEC has announced. The bid was \$36,754.

As previously reported in the Lab News, the new space will be utilized for storage, machining and

testing of all toxic materials used by Sandia Laboratory.

Physical and Electrical Standards Department 1650 and Industrial Hygiene Division 4961 will occupy the building.

The project will be completed about Oct. 15.

Service Awards



Aquiles J. Trujillo
4152
June 24, 1949



Carl M. Franz
5521
June 28, 1949



Charles Crider, Jr.
2722
June 29, 1949



Lloyd B. Jolly
4221
July 1, 1949



Joe N. Apodaca
2243
July 5, 1949



George Neun
5143
July 5, 1949



Max A. Richter
1611
July 5, 1949

Ten
Year
Pins

Five Year Pins

June 27-July 10

Kenneth V. Atkisson 4412, Arthur Brown 4252, Thomas W. Hoover 1246, Richard A. Kavet 2552, William J. Poole 1461, Arthur E. Baldwin 8141, O. Donald Arthur 2713.

F. G. Blotter 5141, D. W. Grobecker 1621, Charles V. Ladig, Jr. 4253, Anthony J. Peterson 5231, Alfred D. Vogt 1245, Lillian P. Bowers 4152, Dwayne L. Mozey 4724.

L. Eloise Perry 8223, Nancy A. Bercaw 5513, Morgan L. Kramm 5232, Jack L. Wilson 8122, Stephen Farrelly 4765, Robert F. Utter 4633, W. R. DesRoches 4412, Charles C. Klutts 5533, Charles C. Burks 1222, Keith R. Baltz 5213, Robert E. Thorne 4421, Glen M. Haines 4224, W. M. Winfrey, Sr. 5544, W. W. Westman, Jr. 1541, Kelly S. Davis 2551.

Lois A. Swayze 4131, Mario P. Otero 2227, John R. Shunny 4723, Stewart W. Wilkison



William E. Low
4152
July 6, 1949



Harlan E. Lenander
1300
July 8, 1949

4582, Gibson R. Guernsey 4254, Joe L. Garcia 4766, Willis J. Whitfield 2555.

Fenner D. Jones 5211, Thomas Starr 1541, George E. Harwood 1652, Eunice B. Wyer 1200, Robert J. Tockey 8123, William M. Boggs 5531.

SHOPPING CENTER

CLASSIFIED ADVERTISING

Deadline: Friday noon prior to week of publication unless changed by holiday.

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 Corporation and AEC employees only
6. No commercial ads, please
7. Include name and organization.

FOR SALE

- 2 BDR. HOUSE, half basement, patio, fireplace, exclusive neighborhood, GI loan with substantial down payment or FHA refinancing. Torres, 3817 Mackland NE, AL 6-6600.
- CARTOP CARRIER, large, heavy duty plywood construction, \$20. Webb, AL 6-4626.
- DINING ROOM set, 40"x60" table extends to 72", 6 chairs and buffet, walnut waterfall style, \$60 or best offer. Donohoe, 300 Gen. Stillwell, NE.
- RIFLE, 35 Remington Model 14 with Weaver J4, 2 1/2" power scope and sling, \$25. Stixrud, DI 4-7873.
- '55 MERCURY Monterey, 9 passenger station wagon, R&H, new tires, other extras, 36,000 miles, \$1,295. Knowlan, AX 9-2952, 8614 Candelaria NE.
- MATERNITY CLOTHES, black dress, yellow dress, blue skirt, size 12, reasonable; Argus C3 camera outfit, \$30. Scheiber, AX 9-4743.
- 3 BDR. CHAPMAN home, beautifully landscaped, w/w carpeting, drapes, extras. Central air conditioning, heating. See to appreciate, \$16,100. Seaver, AX 9-2227.
- EVAPORATIVE COOLER, 4000 cfm, 3 speed, used one season, \$30. Elliott, AM 8-1937.
- SOUTH VALLEY HOME, 4 bedrooms, walled, refrigerator & stove, Total price, \$8,500. Milligan, 1019 Cerro Vista SW, AX 9-8237.
- '30 MODEL A Ford, new upholstery, sealed beam lights, 16 inch tires. Chavez, AL 6-4645.
- MOSSMAN, 3 BDR home, double fireplace, w/w carpet, completely draped and landscaped, air conditioned, built-ins. Dickson, AL 6-7178.
- '52 HARLEY "74," foot shift, 16,000 miles since overhaul, windshield, saddle bags, buddy seat, \$325. Dobias, AL 6-9235.
- WALNUT SECRETARY desk, side recess for typewriter, 34"x60" top, \$35. Shea, 115 Quincy NE, AL 5-8092.
- BED DIVAN, chair, 2 end tables, coffee table, universal rocker, \$75. Hopkins, AL 5-8902.
- POLISHER, Universal w/scrub brushes, \$20; American Flyer train w/switches, extra cars and tracks, \$40. Rauch, AL 6-0027 after 5:30.

- '55 CHEVROLET V8-210 4 dr. station wagon, automatic transmission, R&H, \$975; '55 Plymouth 4 dr. Plaza with heater, \$800. Vinovich, AX 9-1979 after 5.
- BABY BED mattress, used one week, new, Wilson, AL 6-2630 after 5.
- 2 BDR brick home, newly painted, lawn, shrubs, trees, sprinklers, \$10,300 with low down payment. Axelander, 9605 Salem NE, Sandia ext. 49181 after 4:30.
- REFRIGERATOR, Crosley, \$95; GE Ironer \$99; Winthrop desk \$44; sofa bed \$20; floor lamp \$15; weatherstripping. Will trade. Blackwell, AL 5-7677.
- '54 OLDSMOBILE 88, 4 dr., hydromatic, R&H, power steering, power brakes, \$950. Pasko, AX 9-6542.
- DRAPES, Knadjian's, white with brown panel print, 12 panels, \$125. Plaid chair, matching drapes, \$65. Dossey, AL 6-0857.
- SNOW 3 BDR, 1 1/2 bath, DR or den, air conditioned, w/w carpeting, 2-car garage, deluxe features. Available immediately, \$15,000 total, \$2100 DP. Vath, AX 9-1448.
- AUTOMATIC WASHER, Whirlpool, 1954 model, \$60 or best offer. Binder, 1852 Betts St. NE, AX 9-2937.
- GOLF CLUBS, 3 woods, 3 irons and large leather bag. Also, sleeping bag for station wagon. Geibel, 2729 Aliso NE, AM 8-8147.
- RUGS (2) 9'x12'; French oriental w/rubber pad, \$65; wool Wilton w/felt pad, \$35, both for \$85. Brown, 3617 Piermont Dr. NE, AX 9-8841.
- CONSOLE TV, 21" early American maple, \$100; light oak dinette table, four captains chairs, \$40; English saddle, bridle, \$75. Stamm, DI 4-7431.
- GAS PIPE, approx. 75 feet 3/4 inch, threaded and with connections. Make offer. Lathrop, 1441 Santa Rosa SW, CH 7-3882 after 5:15.
- DANISH WALNUT chairs, pair \$70; twin beds, pair \$20; Norge automatic washer \$60; Kenmore pushbutton electric range, \$125. Norvill, AL 5-1725.
- 12" TV, Spartan table model with blond finish, \$20. Table and four chairs, \$20. DeSelm, AL 5-2634.
- PROJECTOR, Kodak Brownie 300 watt, \$50. Ramirez, 2617 Indiana NE, AM 8-1253.
- YOUTH BED w/mattress \$25; youth chest drawers \$15; single ped. desk \$15. Bora, AL 5-8452.
- 3 BDR Home, 1 1/2 baths, hw floors, patio, carpeting, forced air heat, air conditioned, walls, \$17,500 refinanced. Mead, AL 5-3403.
- BEDROOM SET, inexpensive, complete. Also baby bed and double bed. LaPoint, AM 8-2290.
- FISHING WORMS, fine for lawns and gardens, special price in lots of 500 and 1000. Burns, AL 5-3737 after 5 p.m.
- 348 CAL. AMMO, 150 and 200 grain silver pits. Marrs, AL 5-7383 after 5.
- PICK-UP, 1940 Ford, \$250. Morrison, CH 3-2011.
- TWO TIRES, 7.60x15 snow and mud with tubes and wheels. Pass, AL 6-9663.
- STORKLINE CRIB, deluxe birch with matching cradle, \$45; car bed \$5; tricycle \$6. Scott, 2912 Wisconsin NE, AX 9-7893.

NEXT DEADLINE FOR SHOPPING CENTER ADS Thursday Noon, July 2

- '50 AUSTIN, \$300, needs rings; 4-cycle power mower \$20; upright vacuum cleaner \$15; 12" Zenith TV, beautiful cherrywood cabinet \$20. Hansen, AL 6-1216.
- CASTING REEL, Pflueger Akron in original box, and glass casting rod, also 6 plugs, \$7. Taylor, AL 6-3774.
- BADMINTON SET, 4 player, never used, \$12; Japanese bike, 26", \$3.50. Nissen, AL 5-5657 after 5.
- ROLLER SKATES, Ladies rink type with Harlick boots, size 6, \$10. Smith, AX 9-6873.
- '55 OLDSMOBILE 4-dr. and 28' Spartan trailer, both refrigerated, complete with hitch and air-lifts. Low down payment. Cummings, CH 3-0916.
- PICKET FENCE, 4 ft. highx50 ft. long with gate, \$15 or best offer. Joseph, AL 6-5414.
- CAR TOW BAR, \$35, wholesale cost new was \$60. Gay, 1845 Georgia St. NE, AL 5-0402.
- 35 mm ENLARGER and several paintings, value \$40 to \$200. Sell or trade for hi-fi equipment or tilting arbor table saw. McCulloch, CH 3-4273.
- 3 BDR Home, walled back, lawns, air cond., mahogany paneled den with fireplace, sectional, 2 chairs, 4 tables. Charlton, AL 5-3452.
- CAR COOLER, 6 volt evaporative floor type with recirculating pump, Goodwin, AL 6-2216.
- 26" SCHWINN boys lightweight bike \$10; 20" Schwinn boys Brodie bike 3-speed rear axle, \$20. Campbell, AX 9-4830.
- LAVATORY, kitchen sink, deep sink, all cast iron, white, reasonable. Vigil, CH 2-2969 after 6.
- 3 BDR. Home, 1 1/2 baths, air cond., central heat, w/w carpet, custom drapes, landscaped. Jones, 1509 Maryellen NE, AX 9-9263, see weekends.
- YARD LIGHT \$5; tire chains 6.00x16 thru 6.70x15 \$5 pair, other items. Fuller, AL 5-2114.
- '58 RENAULT 4-CV sunroof, whitewalls, light gray with red leather upholstery. Make offer. Agnew, AX 9-1659.
- KENMORE WASHER, wringer type with pump, reconditioned, \$15 or best offer. Palmer, AL 5-3915.
- 3 BDR. Home, 1 1/2 baths, brick, corner lot, drapes, w/w carpet, sprinklers, \$17,900. McCullar, 7603 Prospect NE, AX 9-0638.
- CUSHMAN SCOOTER "Highlander," 1958 model with speedometer, saddlebags and windshield, \$189. MacCallum, AL 5-6363.
- LATHE, Craftsman metal turning, back geared, screw cutting, 6" swing, 12" centers, 8 to 96 threads with 4 jaw chuck and motor, \$50. Frank, AX 9-1370 after 5.

- 3 BDR Home, \$1000 down to new FHA loan; sprinklers, landscaped, air cond., close to bus, schools, bases, shopping Salazar, 821 Florida SE, AL 5-6827.
- SEARS SCOOTER, 1956 Vespa, \$250, extras included. Will consider trade for recent model Singer "zigzag" sewing machine. Moyer, AX 5-8807.
- '56 GOLDEN HAWK hardtop, large engine, power steering, brakes, windows and seats, R&H, deluxe interior, 24,000 miles. Johnson, AL 6-5997.
- 3 BDR Hoffman deluxe, 1 1/2 baths, Wasteking disposal, wall, sprinklers, land-ley, CH 2-8795.
- WEANING PIGS, extra nice, \$15. Weaver, 115 Vineyard Rd. NW, DI 4-4897.
- COOLER, EVAPORATIVE, portable, 1000 cfm \$45. Norge gas range \$50. Botner, AM 8-4023.
- 2 LARGE LOTS, over 1 acre, located in Tres Pistas Canyon, both for \$3500. Weir and Knauth, AX 9-1160 or AX 9-9138.
- WOODWORKING tools, sheet metal tools, fireplace brick, welding equipment, air-craft tools, pipe fittings, misc. items. Stuart, 3000 Cuervo Dr. NE, AL 5-0661.
- '51 FORD station wagon, good for hunting, fishing and car pools, \$300 or best offer. Gutscher, AM 8-4710.
- HOUSE TRAILER, 1956 National, 8'x36', 2 bedroom, \$2700. Williams, CH 7-9952.
- CAR COOLER, Thermador, \$9; outdoor gym set \$12; 20" boys bike \$6; new 3/4 hp 110/220v motor \$30. Pennypacker, AX 9-1547.
- BIRD CAGE and wrought iron stand, \$6. Carter, AL 6-9166.
- ENGAGEMENT RING, diamond approx. 1/4 carat with one chip each side, platinum mounting, priced to sell. Ruff, ext. 48190 after 5.
- 150w GLOBE champ xmtr, \$135; SX-71 rcvr, \$140; freq. mtr. Browning lab MJ-9, \$60. Brown, AX 9-3189.
- PARAKEETS, baby, all colors, banded, Robinson, AX 9-0971.
- GONSET G-66B receiver, \$165. Braffett, CH 2-5429.
- '59 STATION WAGON, country sedan, 3,300 miles; lawn mower \$10; seed and fertilizer spreader, \$8; single action Colt, \$95. Burbridge, ext. 32289.
- DACHSHUND PUPPIES, Champion sire, AKC registered, visitors welcome. Jolly, 1640 Shadyside Dr. SW, CH 3-9010.
- RECORD PLAYER, RCA automatic portable 45, one year old, \$15. Haley, 524 Pueblo Solano NW, DI 4-3919.
- LAWN MOWER, 18" Sears, reel type. Martin, AX 9-3004.
- ROBERSON 3 BDR, den, DR, 1 1/2 baths, service room, double garage, air cond., patio, walled, landscaped, sprinklers, 4 1/2" GI loan. Dettmer, AX 9-6024.
- 3/4 MIDGET race car, \$75; custom built hi-fi set, \$75. Will trade. Sullivan, 329 Erbe NE, Ext. 26235.
- 3 BR BRICK, 1 1/2 baths, pine paneled den, fireplace, carpets, drapes, patio, sprinklers, \$21,000, GI loan or refinance FHA. Romine, 2709 Palomas Dr. NE, AM 8-8358 evenings.

- GAS FIREPLACE log set, \$10; 3 metal Venetian blinds, \$3; bird cages, \$1 each; fox terrier, 2 1/2 years, spayed, all shots, \$5 dog house included. Joseph, ext. 34141.
- LIVING ROOM 2 piece set, \$75; coffee table \$12; 21" Motorola TV \$75; refrigerator \$75; 1949 2-dr. Ford \$125; baby high chair \$10; baby bed \$20. Moncet, CH 2-4934.
- ### LIVERMORE FOR SALE
- '59 CHEVROLET V8 station wagon, R&H, only 3000 miles, equity plus \$960, will trade for older car. Rogers, HI 7-0201.
- ### WANTED
- RIDERS TO Minneapolis area, share expenses, leaving on or about July 2. via any point in between, air-conditioned car. Branson, Ext. 49161.
- USED MIXMASTER, ping pong set, set of dishes, each inexpensive. Steele, AM 8-8323.
- CHILD CARE in my home for working mother, two small children. Dailey, CH 3-4889.
- TRADE operator's manual, 1956 Ford truck, for 1950 Ford truck operator's manual; need shop manual for 1950 Ford truck. West, Ext. 24254.
- GERMAN, NAZI daggers, knives, medals and Luger pistols, private collector. Smith, AX 9-1096, 8607 Menaul NE.
- GOOD HOME for lovable mutt. Wladika, AL 5-9166.
- RIDERS FOR horse show, South Valley Rebel Riders arena on South 85, June 28. For information, call Tatum, CH 2-9021.
- TWO WHEEL bicycle, 20", w/training wheels. Stixrud, DI 4-7873.
- RIDER TO Missouri over 4th of July weekend, one way only. Souder, Ext. 31461.
- TILT-ARBOR table saw, 8" or larger diameter blade. Must be able to crosscut 12" board. Smith, AM 8-1228.
- PLACE SETTINGS or odd pieces, Gorham's Chantilly pattern silver. Townsend, DI 4-7352 after 5:30.
- RIDER TO Miami, Florida, about July 1, share expenses and driving '58 Dodge. Anderson, Ext. 28141.
- ### FOR RENT
- 2 BRM HOME, refrigerator, range, carpet, walled-in back yard, Passmore, CH 2-5178 after 6 p.m.
- UNFURNISHED HOUSE, NE, 3 bedroom, 1 1/2 baths, carpeting, air-conditioner, adults, no pets, water paid, \$135 month, will lease. Reasner, AX 9-3578.
- 2 BRM APT., new brick duplex, air conditioned, electric kitchen, close to Base, 316 Texas SE, \$94.50. Hunter, AX 9-1089.
- ### LOST AND FOUND
- LOST—Blue leaf shape earring, wallet w/ID of L. A. Rainhart, red checkbook w/name Winifred Fellows. LOST AND FOUND, Ext. 26149.
- FOUND—Black frame glasses found outside Gate 8, bronze earring, silver and green dangle earring, keys in First National bank case. LOST AND FOUND, Ext. 26149.

Sandia-Made Production Testers Used To 'Take Pulse' of Nuclear Weapons

A nuclear weapon has left the production line. Sandia's inspector plugs in a small device, turns a crank. A green light flashes. The weapon begins its journey to stockpile. It has passed the final test of a long series.

Had a red light flashed the weapon would be rejected. Back it would go for reworking until its defects are corrected.

This simple operation of one type of production tester is symbolic of Sandia Laboratory's striving for the utmost in reliability in nuclear weapons.

The device mentioned above—and its brothers, ranging from a 12-inch mailing tube sized tester to a massive bank of electronic equipment 8 feet high, tell the tale of performance inside the weapon.

Following is the story of production testers, designed and built by Sandia.

Every part of a nuclear weapon is subjected to testing during manufacture, after manufacture, after assembly and during its stockpile life.

Designing and providing production test equipment is the responsibility of Manufacturing Design Division A 2551 under Paul Callies. The division designs an average of 250 production testers a year and delivers an average of four units per design. From design to delivery the testers are the responsibility of the division.

Used by Many

The PT's are used by manufacturers, Sandia field inspection teams, receiving organizations, assembly and quality assurance personnel.

"Test equipment is becoming more and more complex," Paul Callies says. "In step with high quality and reliability, automation is now becoming an important point of our business. This helps remove the possibility of human error in taking readings in testing. Some PT's deliver data in three forms—visually, from a typewriter printer and on punched tape."

The manufacturers use the data for quality control of component production and the punched paper tape data is utilized by Sandia's Quality Assurance and Manufacturing Development organizations to keep tabs of the entire manufacturing complex of nuclear weapons.

Design of the PT begins almost as soon as design on a component is begun. Working with the component design engineer and the manufacturing development engineer, the PT designer starts early compiling design concept information. It is determined what aspects of the component will be



POINT-TO-POINT wiring check of production tester is performed by Bill Caldwell (2551-4). After complete check of the PT against the drawings, the tester will be given initial calibration.

tested and the degree of accuracy. As soon as a component design is firm, the manufacturing development engineer writes a PT design request. The component is now in its final stage of development and time is running short.

Even with the preliminary work performed by the PT designer he still must work rapidly to meet the schedule. Along with his design drawings, the PT designer constructs a "breadboard" model of new and unproved circuits or values to be used in the new tester. Once he is satisfied with his design he calls a preliminary design conference.

Conference

Attending the conference will be the development engineer, manufacturing development engineer, representatives of QA and Inspection. Purpose of the conference is to make sure that the requirements of all concerned have been met and that there is a general understanding and agreement that the preliminary PT design will do the job.

Two design sections within the division handle the design portion of the work. Bob Summers heads PT Design Section I and Kelly Davis heads Section II. Both sections have a total of 22 design engineers who follow the tester from design through acceptance.

An average job runs two months but complete testers have been designed and built within two weeks to meet emergency schedules.

Working with the two design sections on a continuing basis is

Drafting Section III 4413-3 under L. G. "Barney" Spohr. The draftsmen of the section convert the designer's sketches into finished drawings for use in the Fabrication Section 2551-3 headed by Ben Gardiner.

Here again, an early lead was taken. As the PT was in its design phase, fabrication personnel worked with the designer to gather information as to what would be needed to make sure that it will be on hand when it is time to assemble the PT.

Assembled by Technician

In building the PT, the technician who is assigned to assemble the PT handles the complete job. He works step by step from the blank panels to the highly complex finished job with its hundreds of wires, connections and electronic parts.

About 50 per cent of PT fabrication is handled at Sandia. The remainder is contracted to various suppliers.

When the PT is assembled it goes to the Prove In Section 2551-4 under W. T. "Bill" Dobbins. Here the unit is completely checked against the drawings and specifications for fabrication errors. Here, also, the preliminary calibration is performed.

The PT is almost ready to do its job. Another conference is called with the same representatives who attended the first conference on hand again to give their final OK to the tester.

It undergoes a functional check with the component it was designed to test. In addition to

checking the "area of acceptance" performed by the tester, it is also tested against a "simulator," a device paralleling a malfunctioning component, to check the tester for "areas of rejection."

After this "debugging" ordeal, the tester receives final calibration by Calibration and Secondary Standards Division 2723 and is ready to go into use, a vital key in the reliability of nuclear weapons.

A. F. Hurford Reads Technical Paper to Aircraft Association

A. F. Hurford (1451-1) presented a technical paper at a meeting of the Electron Tube Panel of the Aircraft Industries Association in Washington, D.C. last week.

Title of the paper was "Krytron Tubes—Applications and Performance Requirements."

The paper was a discussion of three typical applications of krytron tubes including electrical and environmental requirements of the applications. Krytron tube requirements for future applications were also discussed.

The krytron tube, a cold cathode arc-discharge pulse tube, was developed by the Electronic Tubes and Semiconductor Devices Division 1451.

Educational Series on Subversion Now Being Given Sandia Employees

Security lectures and movies, emphasizing to Corporation employees the dangers and extent of Communist activity in the United States, are being presented by Security Operations and Information Division 4722.

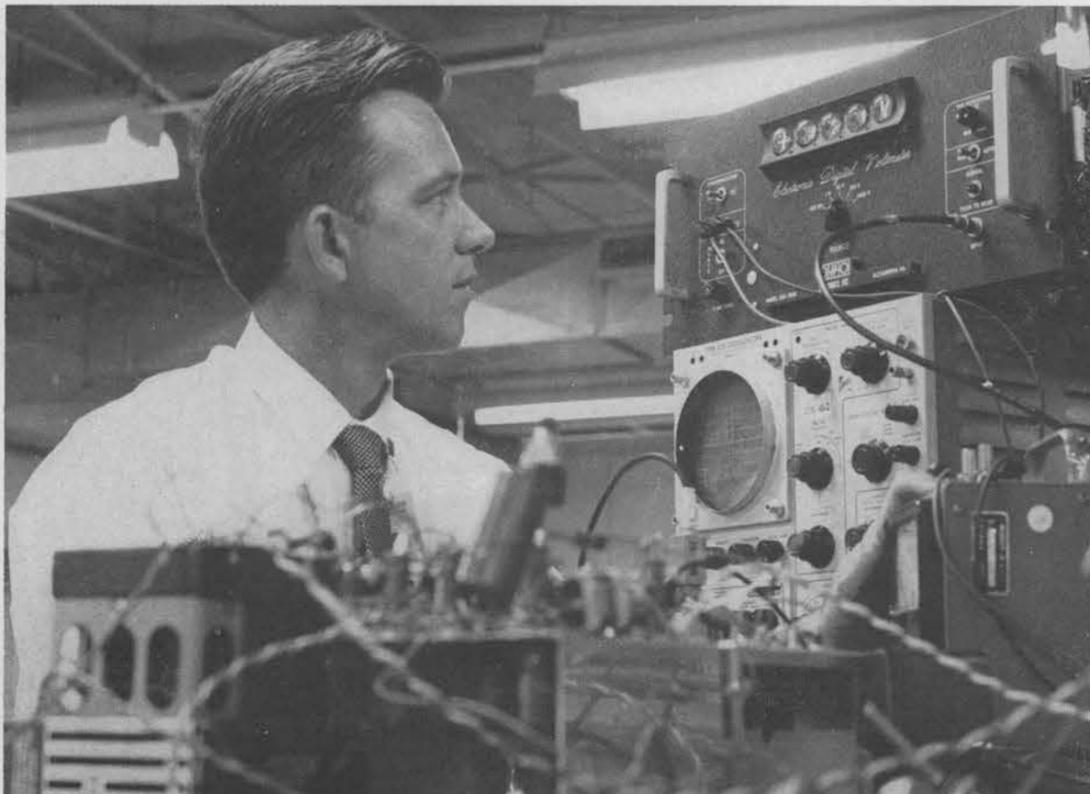
Started April 1, the presentation has already been given to members of organizations 1200, 1400, 1500, 1600 and 4200.

The program, which reaches 300 employees a week, includes a movie of either 10 or 30 minute duration followed by a lecture by C. E. Jordan, C. E. Long, or W. W. Troy (all 4722-2). A security quiz of 20 questions, based on material already discussed, closes the program.

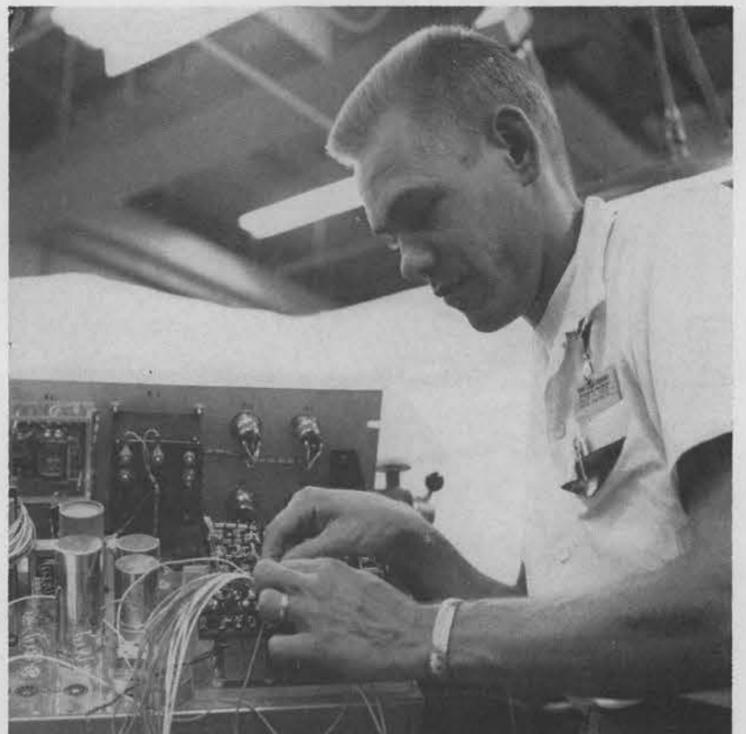
Plans call for make-up lectures to be held in the fall.



CAREFULLY SOLDERING connection in an automatic production tester is Dorcas Richie (2551-3). After fabrication the production tester of nuclear components is "proved-in" by section 2551-4.



BREADBOARD MODEL of an untried circuit for a new production tester is constructed by Jim Griscom (2551-2). He is measuring a peak voltage of an impact crystal for possible use in a new PT.



ASSEMBLY of production testers is done step by step by technicians of Section 2551-3. Working from blank panels to the finished tester, Bill Bierly, above, performs final stages of assembly.