

SANDIA CORPORATION
SANDIA BASE, ALBUQUERQUE, N. M.

To Sandia Employees --

The Atomic Energy Commission's announcement of renewal of the contract with the Western Electric Co. for operating Sandia Corporation for another five years demonstrates that the Commission approves of the way we are doing our job.

I look to Sandia's future with confidence, for I know our staff will meet all future requirements with the same high performance demonstrated in meeting past commitments.

My thanks to you for your outstanding work during previous contracts. Your accomplishments have made possible this new contract between our parent company and the Atomic Energy Commission.

S. P. Schwartz

President, Sandia Corporation



MEMORY OF A VISIT—Sandia employees will be able to join with millions of other Americans in bringing into reality the John F. Kennedy Memorial Library. Thousands saw President Kennedy on his visit to Sandia Laboratory in 1962 and from that glimpse developed a bit better understanding of our country's President. To help our children better know and remember him, we Sandia employees are invited to contribute to the Kennedy Memorial Library fund. See your department secretary.



SANDIA
CORPORATION

LAB NEWS

PRIME CONTRACTOR TO THE ATOMIC ENERGY COMMISSION / ALBUQUERQUE, NEW MEXICO / LIVERMORE, CALIFORNIA



VOL. 16, NO. 14 / JULY 3, 1964



New Five Year Sandia Contract Extension Signed

The Atomic Energy Commission has signed a five-year extension of its contract with Western Electric Company and Sandia Corporation for operation of Sandia Laboratory and its supporting facilities.

The document, formally known as Contract AT-(29-1)-789, received its final signature in the office of Kenner F. Hertford, Manager of Albuquerque Operations, U. S. Atomic Energy Commission. Signers, in addition to Mr. Hertford, were A. P. Clow, Vice President, Defense Activities, Western Electric Company; and S. P. Schwartz, President, Sandia Corporation.

Mr. Hertford said that the contract extension was in itself "a tribute to the past and continuing excellence of the work done for the Commission and the nation by the management and employees of Sandia Corporation, much of which has been accomplished under demanding time schedules."

The contract extension provides for operation of Sandia Corporation through Dec. 31, 1968. The old contract, which had been extended for five years in 1958, expired last Dec. 31. It had been renewed for several short periods, the most recent expiring June 30.

Articles in the contract provide for the operation of Sandia Corporation in accordance with the normal practices of Western Electric Company and Bell Tel-

CONTRACT EXTENSION—The Atomic Energy Commission on June 24 signed a five-year extension of its contract with Western Electric Company and Sandia Corporation for operation of Sandia Laboratory. Seated, signing the document, are K. F. Hertford, Manager of the AEC's Albuquerque Operations; S. P. Schwartz, President, Sandia Corporation; F. C. Cheston, General Attorney, Secretary and Treasurer, Sandia Corporation. Standing are L. W. Otoski, Manager of the AEC's Sandia Area Office; L. P. Gise, Deputy Manager AEC/ALO (Mr. Gise will become Manager July 31 when Mr. Hertford retires); and R. Hoglund, Senior Contract Coordinator, AEC/ALO.

ephone Laboratories. Financial matters, patent matters, security, personnel practices, and nuclear hazards indemnity are treated in various articles. The contract spells out the type of work Sandia is to do for the AEC. The mission of Sandia Laboratory is research, development, and engineering, principally in the ordnance phases of the Nuclear Weapons Program, but it has heavy assignments in systems and components design and development, in field and laboratory testing, in quality assurance, and in military training.

Sandia Corporation, a wholly-owned subsidiary of Western Electric Company, first assumed Sandia Laboratory operation under a no-fee, no-profit contract in November 1949. The no-fee, no-profit provision has remained in effect under the contract extensions.

Sandia Laboratory had its beginning on what is now Sandia Base late in World War II, when the military established a small facility there for work connected with ordnance and other phases of nuclear weapon development. The University of

(Continued on Page Five)

Employees Given Opportunity to Support Kennedy Memorial Library

A deep and lasting memory for Sandia Corporation and employees was created on Dec. 7, 1962, when President John Fitzgerald Kennedy visited Sandia Laboratory. Now employees of the company may join all other Americans in honoring this President who gave his life for his country.

A national memorial to President Kennedy, the Kennedy Library, will be built on the banks of the Charles River in Boston, Mass. This Library will belong to all

Americans, and it will be built by voluntary contributions—large and small—from all Americans.

Mrs. Kennedy in January of this year spoke of the plans for the Library saying, "I hope that in the years to come you and your children will be able to visit the Kennedy Library. It will be, we hope, not only a memorial to President Kennedy but a living center of study of the times in which he lived, which will help inspire the

(Continued on Page Three)

Editorial Comment

Accidents Away From Work

If all off-the-job injuries resulting in time lost from Sandia work were reported to the Safety organization, a startling story of pain, suffering, and financial loss would develop. Already, the statistics are grim.

In a two-year-period at Sandia Laboratory, employees reported 275 off-the-job injuries resulting in lost time. There were 4005 man-days away from work because of these injuries. It should be pointed out that all such accidents are not reported as they should be.

Therefore, these incomplete figures seem to indicate that if all were reported, we would find off-the-job accidents occurring many times more frequently than accidents on the job.

Sandia's Safety organization feels this off-the-job experience offers a threat which cannot be ignored. Somehow, the message of the danger in off-the-job accidents must be realized.

Success in eliminating off-the-job accidents is a personal matter. Each of us must consider our obligation to our family and then choose between caution and carelessness, and between playing it safe and taking unnecessary risks.

Art Everitt Records Visit Into Africa With Busy Cameras

Travel folders on Africa describe it as "the world's most exciting continent." For a first-hand account, talk to Art Everitt (4421); or better still, ask to see the colored slides or 16mm colored movies he shot during his recent safari.

Mr. and Mrs. Everitt started making plans for the trip only three months ago, but Art admits, "As a youngster, I had always wanted to see part of Africa." The Everitts flew to England where they spent two weeks visiting relatives and sight-seeing. Then, on to East Africa, where for three weeks they toured Kenya, Tanganyika, and Uganda.

They headquartered at Nairobi and their first side trip was north by Land Rover to the world-famous Treetops Hotel. The big attraction is at night when a wide variety of wild animals come out of the dense forest to lick the trace elements (phosphates, cobalt, and other minerals) found in the ground.

The second side trip was south toward Mt. Kilimanjaro, Africa's highest mountain (19,340 ft.). Then, on to the Ngorongoro Crater, which Art thought resembled New Mexico's Valle Grande in some ways.

The Everitts flew from Arusha, Tanganyika, to Mombasa, Kenya, considered one of the most beautiful and picturesque tropical ports on the Indian Ocean. After three days there, it was back to the airport for the flight to Entebbe on Lake Victoria. The most impressive sight in that area was Murchison Falls, where Lake Victoria drains into the Blue Nile.

They were escorted within five miles of the Uganda-Congo border to visit a village of pygmies.

"Hunting on safari is very expensive and we were appalled to hear that two million animals a year are killed by poachers. I wanted to fish in Africa, but didn't have time—too busy taking pictures," Art said.

"Perhaps one of the most typical sights in Africa," he added, "is the several-foot-high ant hills. You can't walk 200 yards without seeing one."

WHERE could this be but Africa? Art Everitt visited this village of pygmies in Uganda only about five miles from the Congo.



Sandia Authors

Current or forthcoming articles by Sandia authors in technical journals include the following:

G. P. Steck (5425), "On the Distribution of Linear Functions and Ratios of Linear Functions with Ordered Correlated Normal Random Variables with Emphasis on Range," June issue, *Biometrika*.

C. B. Pierce (5151), "Discrete Phonon and Zero-Phonon Optical Absorption Spectra in Alkali Halides," July 9 issue, *Physical Review*.

F. K. Truby (5153), "Ionic Paramagnetic Species Associated with Irradiated Amyl Disulfide," May 15 issue, *Journal of Chemical Physics*.

D. C. Wunsch (7245) and A. Erteza of the University of New Mexico, "Kerr Cell Measuring System for High-Voltage Pulses," July issue, *Review of Scientific Instruments*.

R. T. Meyer (5153), "Increased Photographic Sensitivity for Time-Resolved Mass Spectrometer Data Recording," August issue, *Review of Scientific Instruments*.

Deep Fat Frying Can Create Major Fire Hazard

Everybody loves donuts, french fried potatoes, fried shrimp, and southern fried chicken. The food is great but the process can destroy your home.

A large portion of home fires are caused by deep fat frying.

Local firemen, answering a call to the home of G. C. McDonald (1550) last week, said that they averaged two calls a day to put out grease fires starting from deep fat frying in the kitchen.

Corry was lucky. His home suffered only a couple hundred dollars worth of damage. No one was hurt. His 14-year-old son Bruce saved the day with some fast fire extinguisher work.

Mrs. McDonald was going to make some donuts. She put the pan of oil on the

DEEP FAT FRYING is dangerous business. The pan of oil overheated and spread flame over kitchen area. Bruce McDonald, son of G. C. McDonald (1550), prevented serious damage by fast action with CO² fire extinguisher.

range but was called into another room. While she was out, the oil reached the flash point and burst flaming over the room.

Bruce smelled the smoke and came running with a CO² fire extinguisher. (No home should be without one.) He aimed the stream of chemical gas into the pan and sprayed around the counter top. Then he noticed that the flame had shot up the exhaust vent. He shoved the extinguisher up the vent and sprayed thoroughly.

In the meantime, Mrs. McDonald shut off the master power switch into the house.

Then Bruce called the fire department. He had to use a neighbor's phone. Theirs, stationed on the kitchen-family room serving counter, had melted in the fire.

In the four minutes before the Fire Department arrived, Bruce opened the windows and screens, checked the roof and attic, and turned on the attic exhaust fan to rid the house of smoke.

The firemen were impressed. Good job. But the story shouldn't end here, Corry feels. Deep fat frying is too common and the hazard too great to dismiss that easily.

"If we did the same process industrially," Corry says, "we would treat it as extremely hazardous and take necessary precautions."

The trouble is this: To fry foods properly, the oil needs to be very hot, and this is practically the flash point of the oil. The problem is compounded when the oil is heated too fast. The oil on the bottom heats more quickly than that on top, pressure builds up from the vapor created, and the stuff can explode quickly without warning. Adding a different kind of oil to some already in the pan can create two layers and make the situation more dangerous.

Good rules to follow include the following:

- (1) Always heat cooking oil slowly.
- (2) Use a thermometer.
- (3) If you mix oils, stir thoroughly before heating.
- (4) Keep a lid to the pan and a wet towel handy. (If the pan starts to smoke or bubble, you can cover it quickly.)
- (5) Never turn your back on a pan of heating oil.

Another thing to remember about hot oil is that water will cause it to splatter or explode. Never take potatoes out of water and toss them into hot oil. Dry them first.

Just one more important fact is illustrated by this story. A fire extinguisher is an indispensable item for every house. Buy a good one and check it out periodically. Instruct every capable person in the house how to use it and conduct a training session.

It could save your home. Or perhaps your life.

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SANDIA CORPORATION LAB NEWS



ALBUQUERQUE, NEW MEXICO • LIVERMORE, CALIFORNIA

Editor: Robert S. Gillespie
Sandia Corporation, Albuquerque, New Mexico

Editorial Offices
Sandia Laboratory
Albuquerque, New Mexico
Employee Publications
Bldg. 610
Tel: 264-1053

Livermore Laboratory
Livermore, California
Public Information
Bldg. 912
Tel: Hilltop 7-5100, Ext. 2395

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Photometrics System To Be Constructed At Area III Drop Tower

Work will start soon on a new photometrics system for Area III's drop tower. The Atomic Energy Commission announced this week that Marco Construction Company of Albuquerque submitted the apparent low bid of \$27,589 for the project.

The work includes erection of six prefabricated metal camera shelters, six concrete camera pedestals, and 46 camera targets—complete with electrical power and instrumentation systems connecting camera locations with Bldgs. 6505 and 6540. The new system will be operated by Photometrics Division 7226.

Work is to be completed within 60 days after the contractor is notified to proceed by the AEC. A. W. Dennis (4543) is the Plant Engineering Department project engineer.

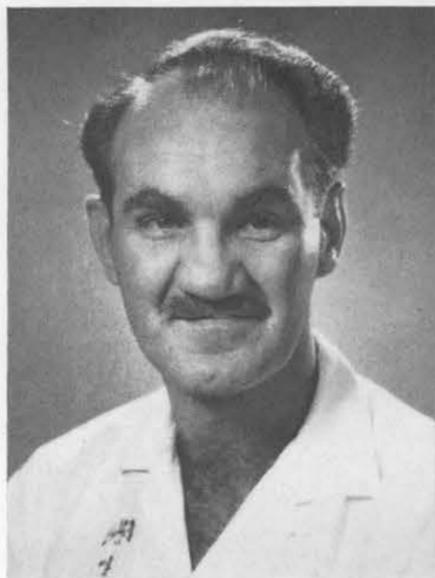
Congratulations

Mr. and Mrs. Clyde Deeds (4114), a son, Charles Andrew, recently.

Mr. and Mrs. James I. Poore (7334-1) a daughter, Joyce Ann, (by adoption) on June 12.

Mr. and Mrs. Keith C. Weir (3460), a daughter, Laura Susan, on May 12.

Union Presidents Endorse Library



Acting President
Atomic Projects and Production Workers
Metal Trades Council-AFL-CIO

We are indeed fortunate to have this opportunity to help build the Kennedy Memorial Library. Our youngsters in the years to come will visit the young and better understand the things this great American worked for.

Not only will this structure be a memorial to a great President, it will be a source of information for all of America. The papers of President Kennedy will yield knowledge for many years to come and from this knowledge will come a better America and better Americans.

I urge you to give to this worthy cause.

—Leland L. Pierce



President
Office Employees International Union
Local 271

In looking back at historical national monuments, I see very few in which all Americans have had an opportunity to participate.

The Kennedy Library will be an outstanding national memorial that will express President Kennedy's ideals of public service, ideals invaluable to our young ones and the future of America.

I thank Sandia Corporation for establishing a systematic means for making its employees cognizant of a great opportunity to participate in the program and to honor the memory of a great American President—John Fitzgerald Kennedy.

—Paul J. Cruz

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Kennedy Memorial Library

ideals of democracy and freedom in young people all over the world."

The Kennedy Library is envisioned as comprising three working components, a museum, an archive, and an institute. It will be primarily a memorial to the 35th President. But it will be more than a simple monument, its concept being to express President Kennedy's vivid concern for his country and the world.

The Kennedy Library was selected as a fitting memorial by the late President's wife and family because of the great interest he had expressed in the project during his lifetime. He personally selected the physical site eight weeks before his death. He had intended to make his office there. He hoped to use his experience to help train and educate young people, both from America and abroad, who wished to serve their countries and the world.

As the Library will be a living memorial to President Kennedy, it will seek to express in architecture the spirit and style of the 35th President. An Advisory Committee on Arts and Architecture, consisting of 14 noted architects from this country and abroad, has agreed to advise the trustees on how best to do this.

The cost of the project will total \$10-million. All gifts are tax deductible. An Employee Bulletin to be issued next Tuesday will tell how contributions may be made.

The restored convertible performed as well as original factory models until recent trouble with the aluminum heads developed. The supercharged Cord held the American Stock Car speed record until 1953.

Supervisory Appointments



JOHN T. RISSE to supervisor of Component Test Division 7332, Planning and Functional Test Department.

John has been engineering analysis since he came to Sandia in January 1957, and has been

a section supervisor for the past three and a half years.

Prior to employment here, he was a project engineer for a year and a half for Mass Development Company in Davenport, Iowa, working on electromechanical and optical devices. He also spent five years as an engineer for Iowa Manufacturing Company (heavy machinery) in Cedar Rapids.

John received his BS degree in electrical engineering from Iowa State University and took graduate courses there and at the University of New Mexico. He was a registered professional engineer (electrical and mechanical) in Iowa.

During World War II, John served two years in the Navy.



ELDON E. RITTERBUSH to Buyer 4315 - 3, Assistant Purchasing Agent, Subcontract Department I.

"Tex" has worked in the Purchasing organization since coming to Sandia three years ago.

Immediately prior to moving to Albuquerque, he attended graduate school at Arizona State University. He has a Master's degree in accounting from that school, and a Bachelor's degree in business administration from the University of Nebraska.

He is a member of Beta Gamma Sigma, honorary society.

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28-Year-Old Automobiles Still Look Good to Carl Longfellow

"Ten Years Ahead of Its Time" is the way the classic Cord was advertised back in 1936. "Ageless" is the way Carl E. Longfellow (4413) describes his two restored beauties.

"The convertible was a basket case when I first saw it in an Albuquerque back yard," Carl says. "That was in 1951. But the sedan was even worse. I found it in a junkyard in Bernalillo in 1962."

Now, both cars are spotless. The supercharged convertible is a 1937 series 812, a classic according to Cord lovers. Carl spent about a year getting the car in shape to run. "I ran out of money and it sat in my garage for three years until I scraped together \$450 for a new Cord engine. Then I finished the body work and installed a new motor in 1954."

With the exception of a mechanical shift instead of the original electric selector, the convertible has been restored with original Cord parts. Carl did the entire job himself, except for the brilliant white paint job.

The restored convertible performed as well as original factory models until recent trouble with the aluminum heads developed. The supercharged Cord held the American Stock Car speed record until 1953.

"It's a dream on the road," Carl says, "and can hold its own with any modern production automobile. It has a 170 hp Lycoming engine, individual wheel sus-

pension, front end drive, hydraulic shock absorbers, four-speed transmission, retracting headlights, and all the rest of the 'modern' extras." Carl plans to repair the engine soon.

The sedan, a series 810, was originally built in 1936 by the Auburn Automobile Company. When Carl found his, it was a rusted shell.

"There were no mechanical parts," he says, "and I had to start by hauling it home on a flatbed truck. Buying original parts seemed financially out of the question for this one. It needed everything. So I started measuring and looking. A '55 Studebaker seemed to come the closest to what I needed."

Carl "shoe-horned" the engine into the Cord body, cut and welded the Studebaker front end and transmission into the unitized Cord frame and body, and added a '52 Mercury rear end.

The Mercury took nine months of Carl's spare time.

"This is the car that I drive everywhere," he says. "When I park it, I usually leave a sign that says 'Not For Sale' in the windshield."

The convertible is driven only on special occasions. It's not for sale either.

CLASSIC CORDS—Carl Longfellow (4413) displays his rebuilt Cords, an American luxury car made in the 1930's by the Auburn Automobile Co. Convertible in foreground was rebuilt with original Cord parts, the sedan uses '55 Studebaker motor, transmission, and front end. Carl rebuilt the cars himself, starting from junked "basket cases."

Welcome Newcomers

June 15 - 26

Albuquerque		Oklahoma	
James R. Armijo	5153	Tommy R. Guess, Stillwater	7324
Lovetta M. Cahill	3126	James M. Wolfe, Oklahoma City	7215
Donald G. Eitzen	7325	Oregon	
Paul E. Gregg	4413	Robert Lee Heilman, Eugene	7624
Lois H. Hayes	3126	Dennis D. Weber, Klamath Falls	1532
*Deanna M. Irvin	3126	Pennsylvania	
Susan K. Lundy	3126	Richard N. Work, University Park	5100
Jack L. Walker	1532	South Carolina	
Scottie B. Wallace	4333	Richard S. Hagins, Lancaster	7224
California		Texas	
James W. Hole, Pasadena	2423	Harold S. Bassett, College Station	3415
Colorado		Virginia	
O. Douglas Fogg, Boulder	1425	Charles M. Tapp, Charlottesville	5310
*Benjamin L. Sewell, Longmont	1422	Wisconsin	
Illinois		Dirk A. Dahlgren, Madison	5411
James C. Bushnell, Urbana	5311	James F. Desler, Grand Marsh	2422
William C. Fienning, Evanston	7622	Donald D. Eulert, Plattville	3412
Iowa		Temporary Summer Hires	
Robert W. Fisher, Sr., Ames	4211	Donald W. Alderman, Ithaca, N.Y.	5151
Leroy E. Torkelson, Ames	7323	Roy K. Amiet, Cleveland, O.	1432
Mississippi		Charles J. Bruggemann, Cambridge, Mass.	1124
Norman F. Hunter, Jr., State College	7324	W. Dale Compton, Urbana, Ill.	5311
Missouri		Richard A. Curtis, Cleveland, O.	1542
Olin K. Conley, Troy	1431	*Richard C. Dove, Albuquerque	7325
Montana		Arthur S. Hill, Princeton, N.J.	1112
Michael J. Eaton, Bozeman	1313	Richard W. Holland, Cambridge, Mass.	5136
New Mexico		Albert Ito, Ithaca, N.Y.	5151
David L. Preston, Las Cruces	7323	James V. Jucker, Palo Alto, Calif.	2563
James W. Campbell, Las Cruces	1531	John D. Lee, Columbus, O.	7422
Bernard C. Kayate, Las Vegas	5131	David L. Mitchell, Stanford, O.	2442
Robert E. Arnot, Portales	4411	David J. Muchenhirn, Albuquerque	1322
James E. Bell, Portales	4412	Frank W. Munger, Jr., Cambier, Ohio	3420
John B. Leavenworth, Las Vegas	1431	Michael H. Pleck, Urbana, Ill.	7412
New York		S. Thomas Pugarelli, Hartford, Conn.	3132
Robert H. Croll, Sr., Troy	7422	*James P. Quint, Albuquerque	7215
Arthur W. Sharpe, Chenango Bridge	7323	J. Kirker Stephens, Urbana, Ill.	5425
North Dakota		*Hollis D. Stout, Albuquerque	1114
Edward D. Kist, Temuik	7253	Lewis Thigpen, Washington, D.C.	5332
Paul S. Skabo, Minot	2542	Donald B. Wheeler, Bethlehem, Pa.	5411
Ohio		*Denotes rehired.	
Gordon J. Dodrill, Canton	7245		
Daniel D. Syroid, Akron	7245		





To the U.S. Government

Sandia Corporation's responsibility to the United States Government is through the Atomic Energy Commission and the Department of Defense. The Government has a sizeable investment in plant and talent at Sandia's facilities. From this investment the Government rightfully expects a significant return in the areas of Sandia's assigned responsibilities. Since its inception, Sandia has had the job of doing the ordnance engineering on nuclear weapons. In more recent years, we have been asked to assist on some of the country's peaceful applications of nuclear energy.

These major responsibilities to the government have given birth to some allied responsibilities: economy in operation, continued and increasing technological competence, the responsibility of working safely, the responsibility of maintaining security, and maintenance of a staff capable of meeting the demands of the future.



Western Electric

To the Parent Company

Sandia's responsibility to its parent company, Western Electric Co., is considerable. Western Electric has entered into a no fee contract with the Atomic Energy Commission to operate Sandia for another five years. The contract spells out how Sandia Corporation is to be operated. As in any good legal agreement, close adherence to the terms of the document is necessary and is best for both parties. Sandia must do its part to see that it operates efficiently and effectively within the terms of the contract—that is its responsibility to its parent company.

Sandia's Four Great Responsibilities

Many decisions are made each day at Sandia Corporation and all of them are weighed with care against the four responsibilities which rest with the company.

Every business enterprise has groups to which it owes consideration. How well these responsibilities are fulfilled has a definite bearing upon our success.

Here are the responsibilities:

To the Employees

Sandia has many responsibilities to its employees, and among the most important are the following:

To select the best individual for each job without regard to race, creed, or color;

To provide employees with continuous, challenging employment consistent with its mission;

To pay equitable wages for work performed;

To provide safe, clean, healthful surroundings in which to work;

To provide opportunities for advancement.

To the Public

Sandia's most important obligation to the public is also the responsibility it has to the Atomic Energy Commission and the U.S. Government—to design and develop the non-nuclear components of nuclear weapons.

To the public, Sandia also has the responsibility of doing this in a businesslike fashion so that our policies and practices will integrate smoothly with the City and State economies.

A further obligation rests on Sandia—that is of being a good citizen. Here, the burden falls on the employee. Assuming the responsibilities of the community and helping solve its problems rests with all the people who live in that community. Sandia employees have a strong responsibility to serve their community fully and well.



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Contract Extension

California initially operated the Laboratory under contract to the AEC, but in 1948 the University asked to be relieved of its weapons development functions at Sandia Base in order to concentrate on nuclear research.

Subsequently, on May 13, 1949, President Truman requested that the Bell System consider undertaking the direction of the Laboratory under contract to the AEC. Western Electric, as part of the Bell System, agreed to assume such operation and formed Sandia Corporation to perform the required services.

Commission facilities which Sandia Corporation operates, in addition to the Albuquerque facility, include Sandia's Livermore Laboratory, Livermore, Calif., and the Tonopah Test Range in Nevada. The various Sandia technical facilities had by the end of 1963 a total asset value of about \$149-million.

Sandia had an average personnel strength during 1963 of 8,060, including 990 at Sandia's Livermore Laboratory. The payroll for that year was about \$72.4-million including \$8-million at Livermore.

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LAB NEWS

JULY 3, 1964

Only Blizzards Are Able to Delay Sandia's Most Faithful Car Pool

In Belen, people set their watches by "Carro don Valentin."

For more than 13 years now, "the valiant car," driven by Alvarado Torres (4221) and carrying as many as seven passengers, has been late to work only twice. Alvarado leaves his home in Belen each workday morning at 6 a.m. sharp. He picks up his passengers according to a rigid schedule and arrives at Sandia Laboratory by 7:05 a.m.

There is one rule among the car pool members which prevails: Be ready when the car arrives.

If not, the member gets left. No exceptions.

"This might sound a little hard," Alvarado says, "but it is the thing that has kept our car pool operating for 13 years. The rule goes for me too. If I oversleep a little, then I miss breakfast."

In those 13 years, Alvarado has driven the 80-mile round trip from Belen to Sandia some 3,380 times, logging more than 270,000 miles. He is on his third automobile. Two nine-passenger station wagons have gone the way of all good transportation.

Members share the expense of the automobile. Alvarado keeps daily records and members contribute according to a mileage formula.

"It's easier and less expensive than driving our own cars," says car pool member Hazel Bailey (3126), "and we have a lot of fun. Car pool conversation can be a great source of useful informa-

C. W. Dickinson Completes 35 Years Western Electric Service



C. W. Dickinson, Jr., manager of Personnel Benefits and Services Department 3120, observed his 35th anniversary with Western Electric Co. June 17.

His first job with Western Electric was in Manufacturing Business Methods at Headquarters, New York City. In 1932, he transferred to Treasury Department where he worked several years with E. M. Shonka, who retired this week at Sandia.

Mr. Dickinson was later with General Personnel Department for six years before transferring to the Kearny Works in New Jersey, where he was in charge of a new department doing labor relations research.

In 1948, he returned to Headquarters as department chief in Industrial Relations Business Methods.

"I was asked in August 1949 to help set up a business methods organization at Sandia Corporation—something that would probably take six weeks," he explained. "That time was extended to three months, and in March 1950 I was asked if I would like to transfer to Sandia."

Mr. Dickinson was promoted to department manager in 1951. At Sandia he has been with Business Methods, Disbursements, and Accounting organizations.

tion. We talk about everything from politics to the price of cattle feed."

Alvarado believes that his is the oldest established car pool at Sandia and that he drives the greatest distance to work. Started in 1951, the car pool still has four of its original seven members—Alvarado, Joe P. Sanchez (4614), Carlos Baca (4613), and Orville Rowin (4221), who drives the car when Alvarado is on vacation.

Other members of the car pool include Mrs. Bailey, Gloria Sais (4332), Sara Casias (AEC), and Bill Casias (4415).

The car pool has never experienced serious mechanical difficulty. Members can change a flat tire in five minutes. Alvarado maintains the car in top shape. He even has a complete set of extra tires mounted on wheels, ready to go.

The car pool was late those two times because of very bad weather.

"A blizzard can stop us," Alvarado says, "but that's about all."

OLDEST ESTABLISHED CAR POOL at Sandia Laboratory has been in operation more than 13 years. Members commute daily from Belen and travel some 20,000 miles annually. From left are Joe P. Sanchez (4614), Bill Casias (4415), Sara Casias (AEC), Gloria Sais (4332), Hazel Bailey (3126), Carlos Baca (4613), Orville Rowin (4221), and Alvarado Torres (4221) who owns and drives the car.



DATA CENTER in Bldg. 880 now employs two 7090 Computers in its data handling operations. The new equipment, installed

at Sandia Laboratory May 9, is designed to keep abreast of Sandia's steadily-growing data processing and computing activities.

New Computer Installed; More Equipment On Order

Use of computers at Sandia Laboratory has grown steadily.

A second IBM 7090 Computer was installed in Bldg. 880 May 9 and is now handling its share of Sandia's data processing task. In addition, new equipment to augment Sandia's existing computer facilities has been placed on order. In October, a new CDC 3600 Computer will be installed to take the place of the CDC 1604 now in use.

"Computing and data processing enters into almost every activity at Sandia," L. E. Mahuron, manager of Data Center and Operations Department 7610, said. "As time passes, computers will help in other routine jobs and will accelerate and increase the effectiveness of experimental research and design programs."

The 7090 Computers are now operating on three shifts, five days each week, and a similar schedule has been established for the 1604. Such schedules are necessary to keep abreast of the ever-mounting computing and data processing workload.

The computer facilities at Sandia are used for five main types of work. "The first of these involves the solution of complex scientific problems," Mr. Mahuron continued. "Many such problems would be unsolvable without computer aid because of the vast number of simple numerical calculations involved." In a second area, real-life phenomena are simulated on computers because of the dramatic difference in cost between processing a mathematical model and actually conducting full-scale or even laboratory experiments.

In the third and fourth areas, the computers are used to analyze data from experiments and from production. Because the computer summarizes and presents to the engineer extremely large amounts of data in a relatively short time, he, in turn is able to make decisions based on fact, not only on engineering judgment.

In the fifth area, the computers are used to complete administrative tasks; such use is justified by reduced costs, greater accuracy, and timeliness in retrieving information and producing reports.

A fundamental reason for the extensive use of computers is the speed at which computation and the manipulation of data can be performed. "The difference between a man doing arithmetic computations manually and using a large-scale computer is about one million to one," Mr. Mahuron pointed out.

The largest file of information concurrently being processed at Sandia consists of some 83 million records of production test data. And additional records are being received at the rate of 90 thousand each month. The computers regularly produce over 500 different types of administrative reports.

A typical data processing application is an Employee Information System which provides an integrated method of recording, processing, and retrieving personnel data. While the most important output from this file is the weekly and monthly payrolls, many other reports and analyses are also produced. The Employee Information System is only one of over 30 major applications performed by the 7090 facilities.

The CDC 1604 also performs a variety of tasks. In the scientific area the larger share of the workload is involved with scientific computing in four main categories: weapons, development, applied research, and research.

In addition to the IBM 7090s and the CDC 1604, Sandia also operates several

other computer facilities in Area I. It has a number of smaller computers for special jobs, located at several continental U. S. and overseas locations.

Acquisition of the new computing equipment is one result of a comprehensive study of computer facilities and projected computer uses conducted recently at Sandia. A major conclusion resulting from the study was that the rapid development of computers and their uses will continue through the years immediately ahead. "And every indication points to ever-expanding uses of computers and data processing equipment, not only here at Sandia, but throughout industry," Mr. Mahuron concluded.



Safety Equipment Memo

Just in case Henry Penny was right, Louise Di Santi (2625) adjusts her hard hat. The protective headgear is a standard safety item at Sandia, issued to all personnel who might have need of head protection. If you need one, it is available in Safety Equipment Room, Bldg. 857.



TOM KELLY (1551), right, defeated Jim Leonard (7415) in a "sudden death" playoff for the championship of the annual Fred J. Given Memorial Golf Tournament. Tom took low gross honors with a 75. E. H. Copeland (7331), left, was low net winner with a 63. Tourney was played June 20 at UNM.



Employees Hang Onto Their Keys Very Well Sandia Locksmiths Say

Four thousand years ago, the inhabitants of a palace in Ninevah invented a wooden lock. It was a security measure that finds its modern counterpart in the thousands of keys and locks which secure Sandia Laboratory.

Sandia's locks and keys are the joint responsibility of Sandia's locksmiths, Bill Shively and Gus Apodaca (both 4514), and Security Standards and Operations Department 3240. The keys and combinations to the locks are administered by C. W. Hansen of Department 3240's Key Control.

"We record, issue, and keep inventory on all of the keys at the Laboratory," Mr. Hansen points out. "Each key and lock is charged to a division supervisor or above, and we keep records of these assignments. In addition, we keep complete records of all safe and lock combinations. We keep masters of all the keys, and when we receive a request for new keys, we forward the request, along with a master key, to the locksmiths, who grind a new key for us."

"There are very few keys lost at Sandia," Bill Shively reports. "A greater problem is the forgotten key, especially after lengthy holidays. Sometimes, too, a key will be broken in a lock, or the lock itself will malfunction."

About half of the calls received by the locksmiths are trouble calls. For most of their trouble calls, they prepare new keys from masters, or from lock code books somewhat like those used to decode cable messages. In some cases, they must dismantle the lock and carefully study its interior pattern before making a key to fit it. Sometimes, a lock must be "picked." To do this, the locksmith uses a set of specially-designed picks, pattern files, and other equipment.

"Patience is important," Gus continues. He recalls a morning several years ago when Sandia's Financial Department called to report that their main vault would not open. "The vault contained not only money," Gus recalls, "but travel vouchers, pay authorizations, and airline tickets." With noteworthy coolness, the locksmiths had the vault open in 30 minutes.

"I recall another time, though, when we

almost lost our patience," Bill says. "We were opening another vault, and mid-way in the job, we stopped for lunch. A fellow came by who noticed that the vault was being worked on. For some reason, he moved the vault handle, thus locking the vault against any sort of further intrusion, even ours. We had to cut the door off, as it turned out."

The locks used at Sandia are, according to Bill and Gus, the best available, and do a highly effective job of securing whatever is behind them. "But even the best locks malfunction occasionally," Bill continues. "Because that's true, faulty locks should be reported immediately. A faulty lock is always a security hazard."

The locksmiths pass on these tips to Sandia's lock-users and key-carriers:

- Never put anything but a key into a lock. This includes oil; if a lock works improperly, let the locksmith decide on a remedy.
- To lock a combination lock, spin the dial at least four times in one direction. This assures that the combination has been cancelled.
- Develop a methodical, sensible routine for checking locks to make sure they're secure before you leave work.

Patent Granted AEC In Names Of Two Sandia Employees

The Atomic Energy Commission has been granted U.S. Patent No. 3,136,593 for an invention by Edward F. Ehrman (1432) and Frederick J. Sparber (1124).

The invention, "Electrical Connector Grounding Apparatus," incorporates a system of "fingers" on a connector which assures positive electrical grounding between a plug and receptacle or two separate connectors.

The grounding is provided almost continuously around 360 degrees of a connector shell. This provides continuity to prevent interference by electromagnetic radiation such as radio frequency interference generated by devices such as radar.

Other features of the device are provisions for accurate positioning of the grounding fingers and protection against mechanical damage to the fingers.

VARIETY of specialized tools are used by locksmith Bill Shively (4513) to repair and maintain locks at Sandia Laboratory. He's holding boxes of pin tumbler, which are integral pieces in the mechanisms of locks.

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LAB NEWS
JULY 3, 1964



Service Awards 15 Year Pins



Lloyd B. Jolly
4221
July 1, 1949



Joe N. Apodaca
4623
July 5, 1949



George Neun
7423
July 5, 1949



Max A. Richter
7332
July 5, 1949



William E. Lew
4332
July 6, 1949



Paul R. Littell
7214
July 7, 1949



Harlan E. Lenander
2500
July 8, 1949



William C. Austin
2641
July 11, 1949



Joseph Hernandez
3413
July 11, 1949



Henry M. Willis, Jr.
3240
July 11, 1949



Deaudin P. Griego
4613
July 14, 1949



Cayce Lawrence
7224
July 14, 1949

Death



Walter M. Wilson, a retired Sandia Corporation employee, died June 2 at the age of 71. He was a utility operator at the time of his retirement in December 1957.

Survivors include his widow, two children, and seven grandchildren.

Sandia Papers To Be Presented at Radiation Effects Conference

A number of papers by members of Sandia's Radiation Physics organization will be presented during the Special Technical Conference on Nuclear Radiation Effects to be held July 20-24 at Seattle, Wash.

Technical presentations to be made include:

"Room Temperature Annealing of Silicon Transistor Parameters Degraded by a Burst of Neutrons" by H. H. Sander (5312).

"Carrier Removal Rates in P-Type Silicon by Electron and Neutron Irradiation" by H. J. Stein (5312).

"Photoconductivity in Organic Molecular Crystals" by R. G. Kepler (5323).

"On the Energy Dependence of Neutron Damage in Silicon Transistors" by F. M. Smits (5310).

"Anomalous Base Current Component in Neutron Irradiated Transistors" by C. A. Goben (5312) and Mr. Smits.

"Use of Ferroelectrics for Gamma Ray Dosimetry" by D. L. Hester (5322).

"Temperature Dependence of Photoconductivity Induced in Polystyrene by Transient Radiation" by F. N. Coppage (5323).

"The Transient Response of Transistors and Diodes in an Ionizing Radiation Environment" by S. C. Rogers, J. L. Wirth (both 5321), and H. K. Gummel of Bell Telephone Laboratories.

"Gamma Dosimetry in a Mixed Radiation Field Above 10⁶ Roentgens" by A. W. Snyder (5322), L. D. Pye, and J. R. Hensler, both of Bausch & Lomb.

10 Year Pins

July 3-17

Kelly S. Davis 2442, W. W. Westman, Jr. 2442, John R. Shunmy 3414, Lois A. Swayze 4131, Mario P. Otero 4613, Willis J. Whitfield 2564, Joe L. Garcia 3413, Frank C. Comiskey 4153.
Gibson R. Guernsey 4253, Fenner D. Jones 7223, Thomas Starr 2444, Eunice B. Range 7300, Robert J. Tockey 8154, Henry C. Black 1432, W. C. Huffman, Jr. 3242, Milton J. Lew 4253.
Charlotte M. Morter 4431, Dale F. Walters 7614, Clifford S. Selvaige 1533, Carl L. Frostenson 2564, Jasper Hadady 4253, Zelma E. Beisinger 5422, and A. J. Brouillard 7221.

Sympathy

To K. R. Nielsen (7221) for the death of his father June 18 in Las Vegas, Nev.
To J. Catallo (4575) for the death of his sister June 14 in Durango, Colo.

Take Note . . .

Organization 5000's third annual summer dinner-dance will be held Saturday, July 18, at the Alvarado Hotel. A social hour will start at 6:30 p.m. with dinner served at 7:30, and dancing from 9 p.m. to 1 a.m.

Tickets are available from Jerry Kennedy (5133), Gene Haertling (5135), Janice Patrick (5151), Ruth Whan (5311), Joanne Branyan (5331), Joe Rivard (5332), Gladys Goodlive (5411), and Helen Johnson (5420). After July 15, Jerry Kennedy will have all the remaining tickets.

A new kind of table tennis tournament for Sandia Laboratory was announced last week by Jack Chavez (2625) president of the Table Tennis Association. Called "Challenge Board Play," the tournament is open to any Sandia Laboratory employee.

To get your name on the "ladder," contact your organizational Recreation Council representative or Benefits and Services Division 3122, telephone 264-7775.

"The Vanishing American," a talk by Ken Hostetler (2412) will be featured at the next meeting of the "Free Lance Orators" July 9. The group meets every Thursday at 12:10 p.m. in Rm. 125 of Bldg. 836. Anyone interested in public speaking is invited. Ray Garcia (3462) will be master of ceremonies.

On July 16, speaker will be Bob Quinland (2412) who will discuss "Break Through." MC will be Louise Proffitt (7322).

Telephone Company Efforts Bring Good News To Gallagher Family

James P. Gallagher (7423) has nothing but praise for employees of the El Paso Division of Mountain States Telephone Company. Through their efforts, the Gallaghers were able to avoid a long, painful series of anti-rabies shots for their three-year-old son, Paul.

The Gallaghers were eating lunch at an El Paso motel on June 13. As they left, Paul wasn't able to resist a cute white poodle tied up on the porch. The following day, in Albuquerque, the parents realized the dog had nipped the youngster; the skin on his hand was barely grazed. Their physician advised, "Locate the dog; it might have rabies."

The Gallaghers called the motel and a housekeeper remembered that the dog's owner had been registered there. That's when the telephone company volunteered to locate the departed guests.

"By the following Wednesday, six opera-

tors had placed about 70 calls before the dog's owner was located in Texas, and we were relieved to find the poodle had been vaccinated for rabies," Jim said. "I surely appreciate the operators' efforts."

Horseshoe Pitching Fans To Compete Under New Rules

New rules for the annual Sandia Laboratory Horseshoes Tournament were announced this week by Tom Towne (1111), newly-elected president of the Association.

The tournament will be conducted round-robin style with no organizational tournaments. Play will be conducted in classes A, B, and C with qualifying rounds pitched at Los Altos courts.

Qualification scores will be obtained by pitching 100 shoes and counting total score. Another Sandia Laboratory employee must witness the qualification.

To enter, the score, along with the player's name, organization and phone number, should be submitted to the Association president by July 14. Classification will be made according to qualifying score.

The tourney will be played at the Los Altos courts beginning at 6:30 p.m. July 20.

Employees Help Legion Stage Fireworks Display

Several Sandians are assisting in arrangements for the 21st annual Fourth of July Fireworks to be held July 3, starting at 7:40 p.m., at the University stadium.

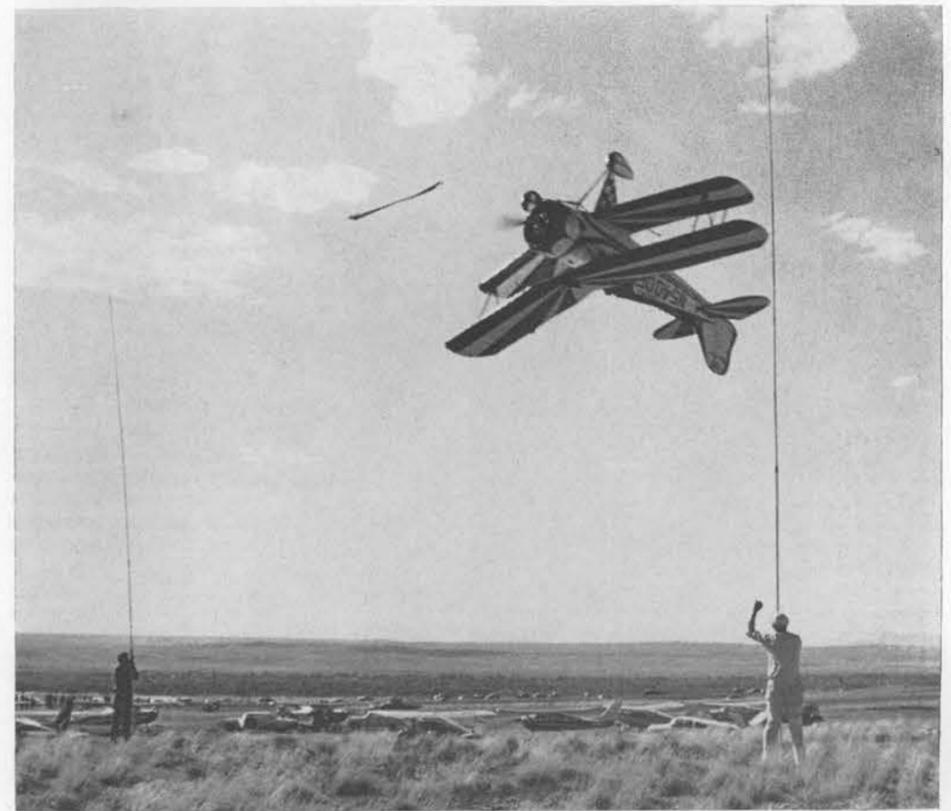
The event is sponsored by Carlisle-Bennet Post 13, American Legion, with proceeds used for a child welfare program. Admission is 50 cents for adults and 25 cents for children.

Legionnaires actively participating include Robert W. Durand (2625), Flavio Gonzales (4212), Mike Silva (4514), Victor John (4233), Ed Martinez (4623), and Abe Nungesser (AEC/ALO).



HOMEBUILT BIPLANE of John Reynolds (7212) earned second place honors at Experimental Aircraft Association meet in Albuquerque last week. Bill Guernsey (4253) is New Mexico Chapter president of EAA.

AIR SHOW HIGHLIGHT was ribbon pickup by national aerobatic champion Harold Krier piloting his custom designed biplane. John Reynolds (7212) holds pole at right.



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LAB NEWS

JULY 3, 1964

Two Families Enliven Summer By Employing Youngster-Switcheroo

Two Sandia families, separated by many miles, have exchanged children for two months.

James Randall Fuller, eight-year-old son of Jocelyn L. Fuller (4411-3), is visiting in Tonopah, Nev., with the Richard R. Petrini (7221) family. Randy enjoys the wide-open spaces and is panning gold, catching snakes, and learning about turquoise and horses with his friend, Carl Petrini.

Visiting the Fuller family in Albuquerque is Anna Maria Petrini, age six.

The Petrini and Fuller families are long-time friends and have planned this summer's activities since last October when the Petrini's moved to Tonopah.

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
8. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin.

FOR SALE

- '58 CHEVROLET 4-dr. 6-cyl. Biscayne, \$495. Cole, 256-3016.
- REGISTERED German shepherd puppies. Ault, 282-3280.
- COLEMAN cooler, 5 gal. can w/mount; 2 plastic air mattresses; cartop carrier (bag type) fits Rambler wagon. Letbetter, 256-1242.
- BED, two springs, two mattresses, couch and chair, four wooden leather seat chairs, \$50; Winger Whirlpool washer, \$50. Trujillo, UN 4-4349.
- '55 CHEVROLET has 1956 V-8 motor with 10,000 miles, 4 barrel carb, dual exhausts, straight stick, \$350. Schneider, 299-6243 after 5.
- '64 SAAB 850 GT, 1000 miles, 23,000 miles still on warranty, \$2600. Class, 255-4952.
- 2-BDR HOME, attached garage (extended into hobby shop) and efficiency apartment, landscaping, walls, patio, close in location, \$14,200. Mokai, 320 General Patch NE.
- HALF-BEAGLE puppies, some black, brown, and mixed color, females \$5, males \$10. Stevens, AX 9-6086.
- CAR COOLER, window mounted evaporative type, \$10. Stuart, AM 8-2943.
- TRAILER, 1961 Silverstone, 10 x 56', 2-bdr, front DR storm windows, auto. washer, pay off \$3,763 balance, not asking equity. James, 898-2540.
- 3 OR 4-BDR, 1 1/4 baths, large den with fireplace, carpeting, drapes, AC, range included, 2 blocks from school, \$17,500 FHA. Morrow, 298-1762.

- UTILITY trailer, 8 x 4 x 3', completely enclosed, \$105. Gallo, 298-8572.
- '63 CADILLAC Coupe DeVille, air, power, cost \$6867, sell for \$750 and take over \$4750 balance. Cummings, 298-5173 after 5.
- WHEELS, 15" Chev. truck, \$1.50 each; 6.70 x 15 tires, \$8. \$2; 20" boy's bike, \$10. Weber, 298-1564.
- BASSINET-size crib w/mattress, bumper, sheets, \$5; Universal auto. perculator, \$5; infant seat, \$1; teeter-babe, \$1; spreader, \$2.50; baby buggy, \$8. Smith, 298-0557.
- 5-PC dinette set, chrome and formica, \$20. Tafoya, 840 Loma Hermosa NW, 243-7277.
- '62 RAMBLER, Classic, custom (automatic pushbutton), ww tires, radio, reclining seats, heater, seat belts, 22,000 miles, \$1395. Mould, AL 6-7336.
- 9 x 12' rose-beige woven rug, all wool twist, custom cleaned, pad included, reasonable. Williams, 508 Hermosa SE, AL 6-6008.
- SLINGERLAND tenor banjo—pearl inlaid—with case, trade for old collector type clocks or will sell. Montgomery, AM 8-2960.
- GO-KART w/4 new roller bearing wheels, \$10; black mollie baby fish, 15c each. Noel, 298-2142 after 5.
- PORTABLE evaporative cooler, large size w/twin squirrel cage blowers, \$18. Johnson, 298-1011.
- TROPICAL fish tank, 20 gal. w/lighted hood, 2 heaters, bubbler, stand, seaweed, several varieties of fish, \$30. Corn, 299-0601 after 5.
- CHILD'S Dennis Mitchell car seat. Burnside, 268-1755.
- '59 ALL STATE motor scooter. Hayes, 299-1157.
- '61 JAGUAR Mark II 4-dr. sedan, 17,000 miles, 4-speed transmission; Norelco TV, 30 x 40" screen. Braasch, 299-7514.
- 36" GAS RANGE, \$20; coffee table, \$10; cowboy boots, size 7, \$8; clarinet, \$75; hamster cage, \$5; trombone case, \$8. Spacer, 299-0211.
- TOTE GOTE, \$150; 1962 Cuisenaire scooter, \$175; .22 semi-automatic rifle, Hy-Hunter carbine, \$30. Lucero, 243-7517.
- SW VALLEY, 3-bdr., den, 26' LR w/vigas, 2 fireplaces, carpeted, 1 1/4 bath, double carport, w/storage, 2000 sq. ft., less than FHA \$18,300. Roth, CH 3-7049.
- CRAFTSMAN 10" radial air saw; Cosco deluxe stroller, blue; Springfield 03-A3 rifle, 4 groove barrel. Stevens, 298-2894.
- '60 OLDSMOBILE 88, 4-dr. full power, sell or trade. Ballentine, AL 5-7374.

NEXT DEADLINE FOR SHOPPING CENTER ADS Friday Noon, July 10

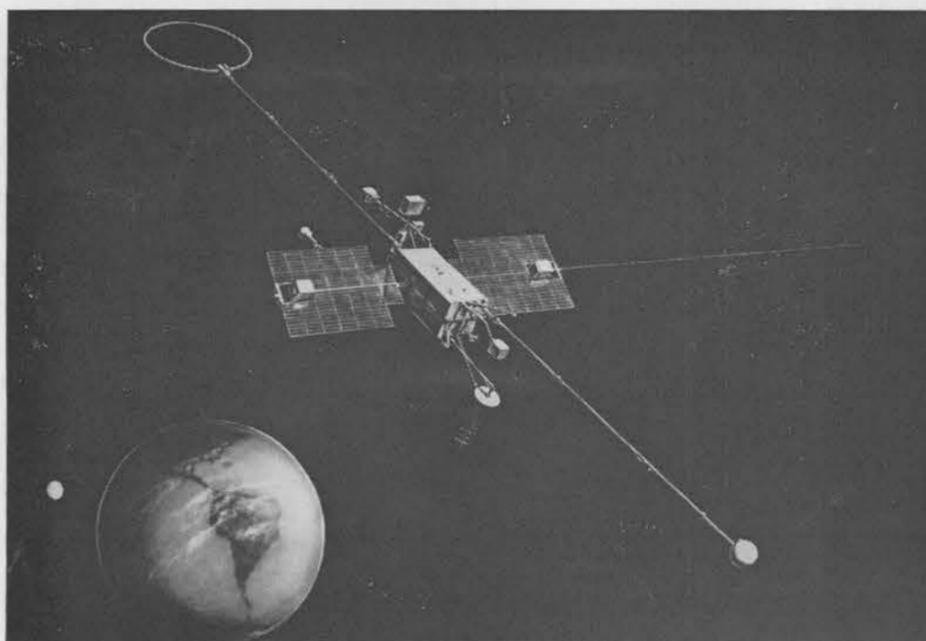
- HAMMOND organ w/percussion, 1959 model, \$1000. Bourne, 256-3230 after 5.
- '56 BUICK Century, power, factory air, R&H, \$400. McKay, 255-5658 after 5.
- 3-BDR, SE, near bases, leaving July 25, chainlink fence, trees, no qualifying, take over payments, \$10,500 total. Stone, 268-2657 after 5.
- .22 CAL. Supermatic, two weights, extra barrel, carrying case, holster, cleaning kit, Hi-Standard booklet, 250 rounds ammo, all for \$75. Alvino, 255-6339.
- MOUNTAIN CABIN on one acre secluded lot off S. 10, \$3850, low down. Three residential lots NE Heights near mountains. Kane, 255-8137.
- DINETTE set, 35 x 50" w/extension leaf, four chairs, black legs, white, tan and gold, \$25. Collier, 299-0182.
- WINCHESTER 1873 saddle ring carbine, 44/40 caliber, \$45. Want flintlock pistol. Smitha, 8607 Menaul, 299-1096.
- '55 CHEVROLET, 4-dr. station wagon, V-8, auto. trans. May, 299-2624.
- '57 VOLVO, new rebuilt engine, \$395. Wilson, 298-0049.
- OR RENT, North Valley, 4 bedrooms, 108 El Ensueno NE. Gonzales, Bernalillo, UN 7-2834.
- HQ110 RECEIVER, \$125; 3 in. scope, \$15; two 3.5 Mc transceivers, BC645, other radio gear. Sell or swap. Baker, 268-8490.
- '62 VOLVO PV-544, 2-dr, 85 horsepower, transistor radio, white color, \$1475. Goodwin, 256-2216.
- '61 FORD Galaxie 500, 4-dr. sedan, two-tone, R&H, overdrive, 390 cu. in. engine, padded dash, seat belts. Samuelson, 298-1663.
- '53 CHEVROLET, std. shift, \$250. Adams, 299-3877 after 6 p.m.
- '62 MG Midget convertible, 5 new tires, new battery, low mileage, recently tuned. Must sell—reduced below book value to \$1150. McMaster, 268-8062.
- '53 CHEVROLET business coupe, \$225. Montoya, 4313 San Andres NE, DI 4-8416.

- LESS THAN bluebook, 1959 Ford Galaxie, 4-dr, PB, PS, AT, \$695. Morgan, 256-7994.
- 14' ALUMINUM boat w/35hp electric motor, trailer, all accessories; Perfection electric range. Glover, 298-7302.
- POODLES, black, miniature, purebred, no papers, \$40. Eversgerd, 256-6345.
- '54 CADILLAC fordor, good second car, \$250; 16mm magazine camera, make offer; window car cooler, \$5. Hueter, 1300 Las Lomas NE, 242-1620.
- 3-BDR MOSSMAN, pitched roof, hardwood floors, wood-burning fireplace, AC, central heating, \$15,500. Anderson, 256-7394 after 1 p.m.
- TWO-BDR, den, landscaped and walled, near Sandia Base, \$10,500. Williams, 898-1746.
- SELL, LEASE, TRADE—4-bdr., 1 1/4 baths, den w/fireplace, dbl. garage, sprinklers, 10820 Cordova NE. Burns, CH 2-2407 after 6.
- PARTLY-FINISHED 10-ft. house trailer. See at 915 Monroe SE. Make offer. Comstock, 255-6267.
- 21" ZENITH console TV, wood cabinet, \$35; 30 lb. roofing felt, 60 ft. long, \$2. Yingst, AM 8-2896 after 5.
- CUSTOM BUILT home on corner lot, 2200 sq. ft. heated, separate workshop, 800 sq. ft. enclosed private lanai, fountain, \$35,000. Gibson, 255-7638 after 6.
- AUTO luggage carrier (Sears), removable, 72 x 36 x 6", \$9. Starzynski, AX 9-3489.
- '63 LAMBRETTA scooter, series 3, good buy at \$265. Smith, 265-0677 after 5:30 or weekends.
- INEZ BRICK, by owner, 3 bdr., 1 1/4 bath, large study, large screened porch. Hardee, 2409 Hendola, 298-5724.
- '58 RAMBLER, V-8, 4-dr, stand. trans., must sell, \$450. Wesnak, 265-4765.
- MOSSMAN Stardust Skies, 3-bdr, den, four years old, landscaped, sprinklers. Selling at FHA appraisal, \$23,350. Mabie, 3609 Stardust Dr., 298-1535.
- RABBITRY: 5 does, 1 buck, litters, hutches, feed, \$75. Breitenbach, 268-7900.
- 3-BDR, DEN, bath and 3/4, garage, workshop, pitched roof, \$450 down on new FHA. Goodwin, 1816 Elizabeth NE, 255-5465.
- RCA 3-speed mahogany phonograph-radio combination, compartment for records, \$50. Vigil, 10304 Stovall Pl. NE, 298-6518.
- DAY BED, \$20; kitchen table w/four chairs, \$20; portable Singer, \$25; small crib and mattress, \$15. Paxton, 255-7839 after 5.

- '53 HARLEY Davison 3-wheeled motorcycle with carrier over two rear wheels, \$150. Svensson, 344-7700.
 - 5 PC. DINETTE set, chrome and formica, \$20. Tafoya, 840 Loma Hermosa Dr. NW, 243-7277.
 - EXPANDED METAL, 1.6 lb./sq. ft., 47" x 83" \$10; butane tank, 23 gal., 14" OD x 39" long, \$25. Gubbels, 298-3528.
 - NORTHWEST Pat Hurley park area, 3-bdr, den, dining room, fireplace, carpeting, \$1000 below FHA. Johnson, 242-8758.
 - MOBILE CB and ham rigs; high standard .22 automatic rifle; life-size Indian in full costume. Laskar, 299-1024.
 - ROBERSON 3-bdr., 1 1/4 bath, separate dining room, utility room. Mitchell, 9714 Apache NE, 298-0257.
 - COUCH, 8 ft., rose color, best offer. Amos, 298-4470.
 - ROBERSON 3-bdr., family room, double garage, built-ins, AC, fireplace, carpet, drapes. Assume 4 1/4% loan, \$1500 under FHA. Must sell. Seeley, 298-2402.
- #### WANTED
- RIDERS to share expenses and driving to Massachusetts one way or round trip, leaving July 8th evening. Lincoln, 247-6038.
 - TRIUMPH TR4 service manual. Magnuson, 255-3921.
 - FOUR GOOD homes for four good puppies. Gorney, 299-8901.
 - RIDE from 6th and McKnight Ave. NW to Bldg. 802. Dyer, 242-8830.
 - HOME for registered male beagle, 3 years old. Wilson, 298-0049.
 - TO JOIN car pool from either gate 7 or 10 to vicinity of Somervell St. between Indian School Rd. and North-eastern Blvd. Smith, 299-1264.
- #### FOR RENT
- 3-BDR, den, double garage, carpeted, all appliances, landscaped, \$175 per month. Smith, 268-0274.
 - 2-BDR, unfurnished house near Winrock, schools, and bus. No children or pets. Mora, 7517 Sky Court Circle NE, 299-9084.
 - 2-BDR, water and garbage paid, \$90. Dziadulewicz, 9505 Woodland NE, 255-5465.
- #### LOST AND FOUND
- LOST: daisy-type earring; wrap-around sunglasses; man's gold wedding band; 5 keys on ring w/tag #2-2265; brown wallet. LOST AND FOUND, 264-2757.
 - FOUND: glasses in blue leather case. LOST AND FOUND, 264-2757.



SOLAR PADDLE for OGO satellite, two of which will be carried aboard the satellite, is examined by members of Sandia Corporation's management staff. Each paddle carries a six-by-seven-foot array of photo-voltaic solar cells which will provide the electrical power.



OGO IN ACTION. This artist's conception illustrates the in-orbit positions of OGO's geophysical experiments. Paddles of solar cells to right and left of main body of spacecraft provide 28-volt DC nominal power supply for the satellite. Long and short booms carry antennas, and experiments which must be isolated from main body of the spacecraft.

Sandia Lab Tests Research Satellite

OGO has come to Sandia.

A \$3-million prototype of the Orbiting Geophysical Observatory, a research satellite designed and built by Space Technology Laboratories, is at Sandia Laboratory for centrifuge acceleration testing to be conducted by Environmental Testing Organization 7300.

Test project engineer is J. E. Bear (7331-1). "Working through the National Aeronautics and Space Administration and the Atomic Energy Commission, STL made arrangements for use of facilities and test personnel at Sandia," he said. "In the test, the 1,000-lb. satellite will be mounted on Sandia's Area III centrifuge, where it will be subjected to sustained acceleration similar to that encountered during launch. STL accelerometers and other instruments will record the satellite's reaction to the environment."

On June 19, a briefing on the OGO satellite, its purposes, and its operation was presented by William McKim, Space Technology Laboratories, to S. P. Schwartz, President of Sandia Corporation; R. W. Henderson, Vice President, Weapon Programs 100; E. H. Draper, Vice President, Development 1000; R. A. Bice, Vice President, Engineering for Manufacture 2000; C. W. Campbell, Vice President, Administration 4000; W. A. Gardner, Director of Environmental Testing 7300; L. A. Hopkins, Director of Electromechanical Component Development 1300; H. E. Lenander, Director of Manufacturing Development 2500; J. R. Meikle, Manager of Engineering and Research Support Department 2640; and Max McWhirter, Supervisor of Shock Division 7325.

The OGO Program is a project of NASA's Goddard Space Flight Center, and will carry some 20 research experiments developed by several universities, two NASA centers, and other government agencies, including the Air Force Cambridge Research Laboratory, Institute of Defense

Analyses, Naval Research Laboratory, and the National Bureau of Standards.

Contractor for the OGO satellite program is Space Technology Laboratories, a division of Thompson Ramo Woolridge Corporation, Redondo Beach, Calif. Sandia has no direct interest in the satellite, its launch systems, or the information it obtains; it is providing testing facilities as a service to NASA. "Sandia's centrifuge is the only facility in the country capable of performing this test to NASA's requirements," W. A. Gardner, Director of Environmental Testing 7300, said. "It is the AEC's policy that we assist the Department of Defense or other government agencies when we have unique environmental testing capabilities and where such assistance will not compromise our own programs."

The main body of the OGO spacecraft is a rectangular prism approximately 6 ft. long by 3 ft. square. More than 30,000 solar cells, mounted on paddles, provide the satellite with about 500 watts of power. Two booms extend outward 22 ft. to accommodate experiments that could be affected by their closeness to the spacecraft. Four specially mounted shorter booms carry experiments whose sensitivity or look-angle requirements make mounting way from the spacecraft necessary.

Two models of the OGO satellite are scheduled for launch. The first (OGO-A) will be launched from Cape Kennedy by an Atlas/Agna B rocket into a highly eccentric orbit, with a nominal perigee and apogee of 170 and 90,000 statute miles, respectively. This orbit will allow the OGO-A to traverse the Van Allen Radiation Belts twice each orbital period, and to make geophysical measurements from near the earth to the edge of interplanetary space.

The second (OGO-B) will be launched

AEC Announces Three Construction Projects for Sandia

The Atomic Energy Commission has announced three construction projects for Sandia Laboratory.

The Blumenthal Brothers Construction Company of Albuquerque is the apparent low bidder for constructing an addition to Bldg. 801. The 1,400-sq.-ft. concrete frame addition will extend north from the present Bldg. 801. It will house the AEC badge office and provide additional space for Security Standards and Operations Department 3240.

The firm's bid was \$41,643. V. E. Kerr (4543) is the Plant Engineering Department project engineer.

Bids were invited last week for modifications to Bldg. 634 to house Technical Art Division 3463. The building, currently within the military tech area, will be temporarily assigned to Sandia. Bldg. 626, now housing Technical Art Division and Finance Department 6020, will be torn down to make room for another three-story laboratory building similar to Bldgs. 805 and 806. Construction of Bldg. 807, which was announced by the AEC several months ago, is scheduled to start next Fall.

A. W. Dennis (4543) is the Plant Engineering Department project engineer.

Third project for Sandia Laboratory is a 44-kilovolt transmission system for Tech Area I, which will affect the power transmission to all Tech Areas. The system will allow almost immediate isolation of any break in a transmission line without disruption of power to other areas within the Laboratory.

The work includes installation of six lead break switches, two line fuse structures, and two vertical dead-end structures. Leeand Construction Company of Albuquerque is the apparent low bidder with a bid of \$29,943. John Hall (4543) is the Plant Engineering Department project engineer.

New Scientific Society Chartered For New Mexico

The American Vacuum Society, a national member society of the American Association for the Advancement of Science, and the American Institute of Physics, has recognized and chartered a New Mexico Section.

The new section will serve over 150 high vacuum researchers located primarily in Albuquerque and Los Alamos. The principle function of the new section will be to provide an environment for scientific and technical discussion concerning current research work, encountered problem areas, standards, etc. Aside from the annual national AVS convention, local meetings will be scheduled, some on a joint basis, with invited guest lectures. Most meetings, however, will be of an informal nature.

Membership is open to anyone interested in vacuum technology. Individuals interested in joining the New Mexico Section should contact J. F. McDowell (2564), Sandia Section Chairman; or one of the following executive committee members: N. Wilson, Los Alamos Scientific Laboratory; R. W. Henny, Kirtland AFB Special Weapons Laboratory; or Royal Pedersen, ACF Industries, Albuquerque.

New Blockhouse To Be Built At Tonopah Range

Construction of a new blockhouse for the rocket firing station at Tonopah Test Range has been announced by the Atomic Energy Commission. The Robert J. Gordon Construction Company of Las Vegas, Nev., is the apparent low bidder for the project.

The work involves building concrete exterior walls, roof, and a floor slab. The blockhouse will provide additional instrumentation and observation areas for rocket launch activities.

The Gordon firm bid \$37,700. Included in the project is installation of refrigerated air conditioning. Work is to be completed within 90 days.

John C. Snowdon (4543) is the Plant Engineering project engineer.

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LAB NEWS

JULY 3, 1964

Sandia's

Safety

Scoreboard

Sandia Laboratory:

20 DAYS

700,000 MAN HOURS

WITHOUT A

DISABLING INJURY

Livermore Laboratory:

26 DAYS

137,000 MAN HOURS

WITHOUT A

DISABLING INJURY

into a polar orbit with a thrust-augmented Thor rocket from the Pacific Missile Range in 1965. Its perigee and apogee of 160 and 515 statute miles, respectively, will allow investigations of characteristics of the ionosphere, and the observation of phenomena directly over the polar regions.

Sandia Papers To Be Read Before Members Of Int'l Symposium

G. H. Miller (5414) and K. F. Touryan (7421) will present technical papers at the Fourth International Symposium on Rarefied Gas Dynamics to be held in Toronto, Canada, July 14-17.

Mr. Miller's paper is entitled, "Interactions of Atoms With Surfaces," and Mr. Touryan's title is "Impact and Static Pressure Measurements in High Speed Flows With Transitional Knudsen Numbers."

Safety Record Tumbles When Employee Steps On Piece of Lumber

A fall at the Nevada Test Site took down Sandia Laboratory's safety record recently. At the time of the accident, Sandia employees had worked 42 days or 1,470,000 man-hours, without a disabling injury.

An employee stepped on a loose piece of wood lying at the foot of trailer steps and sustained a twisted ankle and a chipped fracture of his small leg bone. He was hospitalized for two days. He has since recovered and returned to work.