SANDIA LAB NEWS

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SANDIA LABORATORIES ALBUQUERQUE, NEW MEXICO LIVERMORE, CALIFORNIA OPERATED BY SANDIA CORPORATION FOR THE U. S. ATOMIC ENERGY COMMISSION

FAIR SHARE PINS were prepared for mailing to Laboratory employees who contribute at least one hour's pay each month to the Employees Contribution Plan. Shown enclosing the pins in envelopes are R. H. Austin (3433), ECP executive secretary; Kathryn W. Pepper (3126-3); and Fred F. Eichert (2210), ECP chairman.

Preliminary Tabulation

ECP Reaches $209,000

Payroll deduction cards were being processed this week as Laboratory employees responded to the current Employees Contribution Plan (ECP) enrollment period.

Preliminary tabulations showed a total of $209,000 pledged with some 2000 cards yet to be collected.

Last week group meetings of employees were conducted throughout the Laboratory and the payroll deduction cards were turned in after the meetings.

A number of make-up meetings are scheduled for those employees who missed scheduled meetings because of illness or vacation.

Fred F. Eichert (2210), chairman of the 1966 ECP committee, reports that the individual contributions are averaging higher than last year. So far the average contribution is $42.25, compared to $39.61 last year.

Employees pledged a total of $243,270 to the ECP last year.

Fair share contributions are also higher, Mr. Eichert reported. Last year, some 2400 employees gave their fair share of one hour's pay a month or more. From the tabulations made so far, 2390 have given fair share contributions—one hour's pay per month.

"These returns demonstrate that Sandia employees are concerned about the people and the needs of our community," Mr. Eichert comments. "We want a healthy and progressive community, and through the years Sandians have responded by contributing their time and money to local activities and needs."

Family Day Displays Now Being Readied for Visitors on Oct. 22

With plans for Sandia Family Day, Oct. 22, complete, activity throughout the Laboratory is underway to make the occasion something special for families of employees.

Most laboratory, office, and shop areas will be open for families to see where we work. In addition, many buildings will feature special displays and demonstrations. The following exhibits in Tech Area I will be open to all authorized visitors:

Bldg. 807, Rms. 3096 and 3111, Crystal Growing Exhibit.

Bldg. 815 Auditorium, Continuous showing of unclassified films.

Bldg. 834, Filament Winding Demonstration.

Bldg. 840 Shop, Machine Demonstration.

Bldg. 860, first floor, north wing, Vibration Testing Demonstration.

Bldg. 865, Wind Tunnel Demonstration.

Bldg. 865-East, Plasma Laboratory Exhibit.

Bldg. 880, Rm. 84, Instrumentation Testing and Pendulum Calibration.

Bldg. 880, Rms. 36 and 160, Computer Displays.

Bldg. 880, Rm. 196, Component Testing Demonstration.

Bldg. 880, west side, Instrument Test Trailer.

Bldg. 892, first floor, west hall, Value Engineering and Planetary Quarantine Exhibits.

Bldg. 892, east high bay, Contamination Control Exhibit.

Bldg. 892, south high bay, Mass Balance Laboratory and Machine Shop Exhibit.

Bldg. 892, east side, Clean Room Demonstration.

In addition, the Sphere of Science, Bldg. 852, with its science exhibits will be open to visitors.

In Area III, the Bldg. 6584 conference room will be open and a continuous showing of an unclassified environmental testing film is planned. In addition all environmental test facilities will be open for viewing by employees and their families.

In Area V, reactor facilities will be on exhibit.

Sandia and AEC empoyees are invited to bring members of their immediate family, defined as persons living in their household, plus parents or parents-in-law, to Sandia Family Day activities. Forms will be distributed on which employees may request tickets which will admit them into the Tech Areas. Military and contractor personnel who regularly work inside the Tech Area will be included, and their requests for tickets will be coordinated by the organizations with which they work. Retired employees will receive special invitations to attend.

Three tour periods are planned — from 8 to 10:30 a.m., from 11 a.m. to 1:30 p.m., and from 2 to 5 p.m. The three tour periods were established to better space the arrival and departure of the 15,000 persons expected during the day.

Although visitors will be welcomed as they enter the Tech Areas, employees will be the real "hosts" on Family Day, responsible for their guests at all times.

Questions regarding procedures and policies may be referred to Public Relations, tel. 264-6133 or 264-2150.

Farewell Open House For Mr. Schwartz Today

An informal "open house" for S. P. Schwartz will be held in Rm. 229, Bldg. 802, from 3 until 4:30 this afternoon. Mr. Schwartz retired from Sandia Corporation Sept. 30 but will remain in an advisory capacity through Oct. 31. He has been president of the Company since September 1960.

Mr. Schwartz will be on hand this afternoon to say "so long" to those who have known and worked with him and who have not had an opportunity to chat with him since his retirement was announced.

In addition to Sandia employees who wish to drop by, the affair is open to AEC and military personnel who are friends and acquaintances of Mr. Schwartz. Invitations are not required.

John A. Hornbeck Assumes Sandia Corporation Presidency

Five distinguished men have occupied the President's office of Sandia Corporation since Western Electric Company assumed operation of the Laboratories in November 1949. Since Oct. 1, the sixth president of Sandia Corporation — John A. Hornbeck — has been at home in the office upstairs in the north end of Bldg. 802.

Mr. Hornbeck comes from the same executive proving ground as the other Sandia presidents — the Bell System, the nation's largest integrated system, the incredibly complex $22-billion marriage of free enterprize and public service, scientific brains and operating muscle.

Mr. Hornbeck is convinced Sandia's national defense mission is vital to the nation's security and future. The Company has earned a solid technical reputation, he says, and Sandia's personnel are respected professionals.

A respected professional himself, Mr. Hornbeck comes to Sandia from Bellcomm, Inc., Washington, D.C., the youngest organization of the Bell System. He has served as president of Bellcomm since March 1962 when it was created to provide systems engineering assistance to the National Aeronautics and Space Administration for Project Apollo, the nation's manned space flight mission to the moon.

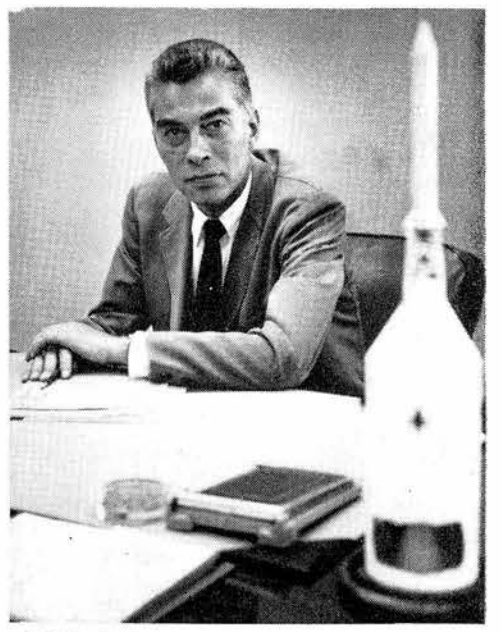
Bellcomm assisted in the preparation of the overall Apollo System specifications which defined system objectives; technical approach; subsystem and system performance requirements; system parameters for crew safety; and uniform system design criteria.

Even before the Bellcom challenge, Mr. Hornbeck was involved in space activities. Most of the Telstar satellite was developed at Bell Laboratories in the Semiconductor Device and Electron Tube Division while he was executive director there. He assumed this position in 1958.

Mr. Hornbeck joined the Bell System in 1946 as a research physicist in the Physical Electronics Department. Early in his career he worked with J. P. Molnar (Sandia Corporation President from October 1958 to September 1960), and once the two scientists were co-authors of a technical paper on gaseous electronics.

Mr. Hornbeck was involved and published papers in the fields of transistor physics, semiconductor physics, gaseous electronics, and device development.

Since the perfection of the transistor by Bell Laboratories in 1948, this invention has virtually replaced all vacuum tubes in the design of electronic equipment. The whole mix of manufacturing and circuit design has changed as a result. Mr. Hornbeck directed development activities during the early development of solid state memory devices, microwave ferrites, and ferroelectrics.



JOHN A. HORNBECK assumed the presidency of Sandia Corporation Oct. 1, 1966, after four years as president of Bellcomm, Inc. In foreground is a model of the Project Apollo vehicle. Bellcomm, Inc., is a NASA consultant for the manned space mission to the moon.

His work was honored by his appointment to the rank of Fellow in the Institute of Electrical and Electronic Engineers and The American Physical Society. He has served on the Administrative Committee of the IEEE Professional Technical Group on Electron Devices.

Before joining the Bell System, Mr. Hornbeck served on the National Defense Research Committee in the Instruments Section, Physics Division, and as secretary to the Land Mines Committee. In 1939-41 he was a teaching fellow, Department of Physics, Massachusetts Institute of Technology. He earned his PhD degree in physics from MIT in 1944. He holds a BA in physics, awarded in 1939, from Oberlin College in Ohio.

Born in Northfield, Minn., Mr. Hornbeck attended school in Michigan, Ohio, and Massachusetts. He has lived and worked primarily in the East, but is enthusiastic about Albuquerque and the Southwest. He had visited here a number of times prior to his assignment at Sandia.

He has moved with his family into the Four Hills area and intends to pursue his interest in golf under the New Mexico sunshine.

The three youngest Hornbeck children are still living at home — a son, 10-year-old John Frederick, and 9-year-old twins, Christopher Wolfe and Deborah Ann. His oldest daughter is married, and an older son is attending Ohio Wesleyan University.

Sandia Engineer Eliminates Duplication Of Evaluation Tests by Using IDEP Data

Resourcefulness of Ralph O. Work (1432) in using Interagency Data Exchange Plan (IDEP) reports has resulted in an estimated cost savings of $1800 for the Laboratory.

The savings were realized by using IDEP evaluation test data on electrical connectors. The connectors were to be evaluated before being used for instrumentation of underground tests in Nevada.

Six evaluation tests, which were either reduced or eliminated by using the information on the reports, included dielectric strength, insulation resistance, contact resistance, operating force, durability, and moisture resistance.

Ralph estimates that he spent a total of 15 hours in obtaining and analyzing numerous IDEP reports, a number of which were submitted by different IDEP participating firms.

IDEP is designed to avoid duplication of costly tests of commercially available items used in government programs. Most of the 164 participating companies are prime or major sub-contractors engaged in missile, space, and related programs. There are some 25,000 reports in the system. Information on the use of IDEP reports may be obtained by calling 264-IDEP (264-4337).

An Open Letter . . .

To S. P. Schwartz:

For the past six years it has been the privilege of the SANDIA LAB NEWS to publish your messages to employees. We are reversing the procedure to relay to you some of the thoughts of Sandia employees on the occasion of your retirement.

First of all, we think you've earned a change of pace. No one has worked harder. Still, we doubt if yours will be a conventional retirement. You have too much energy and ability.

This energy for the past six years went into guiding the activities of Sandia — complex, demanding activities. Under your leadership, the Laboratories have assumed greater responsibilities and tackled new areas of scientific challenge. We have appreciated your leadership and the sense of accomplishment you have given us.

Working with you has been a privilege and a pleasure. Your daily activities demonstrated the sincerity of your interest in all of us as individuals, co-workers, and friends. As a leader and as a friend, you will be missed.

We wish you happiness. May your retirement be all that you want it to be. Thank you for a job well done.

Valuable Scientific Data

Solar Eclipses Merit Study

In early civilizations, people were often terrified by the eclipse phenomenon of darkened skies and the blotting of their prime source of light and heat.

As mankind progressed, superstitions and fear ebbed away. Curiosity was aroused, and studies began to understand this phenomenon—then gain knowledge from it.

This year, Sandians will be among the 300 scientists participating in the study of the total eclipse—to be seen from the South Atlantic.

All studies are part of an overall plan to develop a history of a complete solar cycle—that is, the 11-year-long cycle of sunspot and solar flare activity. The 1966 eclipse comes just when the sun is beginning to have one of these periodic "nervous" spells which are designated as solar maxima.

For Sandia personnel, the solar eclipse presents an opportunity to study solar phenomena as well as the interaction of the sun's emissions and emanations with the earth's atmosphere. The earth's atmosphere is pertinent to Laboratory projects in the area of aerospace nuclear safety, re-entry of space vehicles into the earth's atmosphere, atmospheric nuclear bursts, and satellite programs.

The sun is an immense ball of glowing gas whose internal temperature ranges up 16 million degrees C. in a constant inferno spawned by hydrogen bomb-like reactions. Scientists participating in the various eclipse expeditions will try, for example, to obtain new information about radiant energy shot out by the sun.

The usually peaceful sun which has a profound influence on the earth's environment can erupt with a tremendous burst of energy. When this happens invisible radiation and immense clouds of solar gas strike the atmosphere high above the earth and cause unusual events.

Such a solar outburst occurred six years ago. A brilliant explosion on the face of the sun was detected by astronomers in Michigan. Several hours later a gigantic cloud of solar hydrogen gas collided with the earth.

The collision, which was inaudible and invisible, dissipated a large amount of energy in the earth's high atmosphere, which started a chain of electrical and magnetic disturbances on earth.

All long-distance radio communications were blacked out for hours and compass needles wavered erratically. In the night sky, sheets of flaming red northern lights were bright enough to be seen through clouds. Electric lights flickered in farmhouses in northern areas although the sky was clear. The conditions, which were clearly the results of the sun on a rampage, continued for more than a week.

The sun's brilliant surface, or photosphere, has a temperature of about 5000 degrees Centigrade. As an end product of the thermonuclear reactions taking place at its center, the sun emits energy in the form of gamma rays, x-rays, ultra-violet light, visible light, infra-red light, microwaves, and longer length radio waves. Just outside the photosphere is the chromosphere, or inner portion of the sun's atmosphere which has a temperature range of 4000 to 500,000 degrees C. This region shines a strong red in the light of incandescent hydrogen, the sun's most abundant element.

Aspects of the corona are among the most important of the celestial phenomena that can be recorded only when a total eclipse blots out the sun's direct light. The corona, which is tenuous and thin near the earth in comparison with its structure near the sun, stretches beyond the earth enveloping it and forming an environment through which our planet moves in its orbit.

The corona can be divided into two parts: the inner corona, which may be observed outside of a total eclipse by special instruments, and the faint outer corona, which can be seen only when the moon acts as a great space shutter blocking out the sun's brilliant surface.

From the bright line spectrum, scientists can tell the temperatures and state of ionization of the atoms in the corona. They are constantly seeking every possible confirmation of extreme coronal temperatures (500,000 to 3,000,000 degrees C.) and trying to learn how such differences in temperature can be caused and maintained between the relatively cool atmosphere and inner chromosphere and the hot though extensive corona. Spectral line investigations supply information about elemental abundances in the sun. Observations of the corona are also expected to provide better basic understanding of the general solar magnetic field and information on the source of particular kinds of x-rays.

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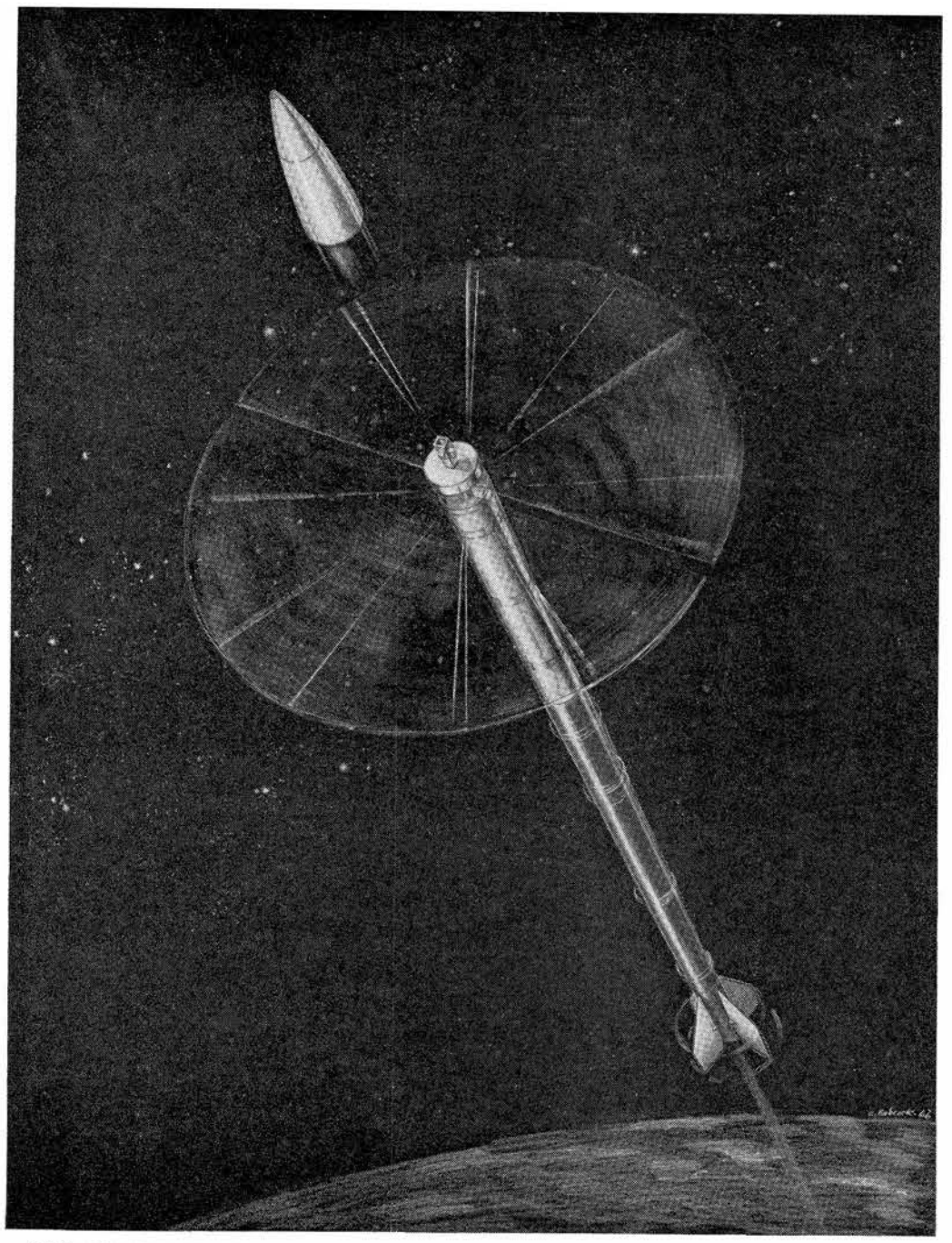


HIGH-FLYING SAMPLER—artist's conception of the Sandia-developed device for sampling the atmosphere above 300,000 feet. The eight-foot diameter mylar disk is shown in its deployed state.

Sandia Sampling Device, Rocket Collect Space Particles for Analysis

A device for sampling the atmosphere above 300,000 feet has been developed at Sandia Laboratory for High-Altitude Physics Department 5240 use on the Nitehawk 9 scouting rocket.

The sampler, packaged in a nose cone, has been under development for several years by what is now Carrier Development Division 9224. It consists basically of an eight-foot-diameter sheet of .0005-inch mylar, which flattens into a disk after deployment because of centrifugal force exerted by rotation of the spin-stabilized rocket. The covering around the sampler is separated at a pre-determined altitude by an explosive nut, allowing the mylar to unwind from a shaft.

Micrometeorites and radioactive particles three microns or larger embed themselves in the two-piece disk, which is drawn into a sealed compartment by a power spring system once the sampling is completed. The sampler, which is separated from the second-stage rocket after the sampling is completed, is returned by a parachute, which deploys at 10,000 feet.

Attached to the apex of the parachute is a flotation auxiliary ram air (FARA) bag that is used in conjunction with a separate sealed carbon dioxide flotation bag for water recovery. Attached to this is a solid-state modulated transmitter which is actuated on impact in water to serve as a location aid.

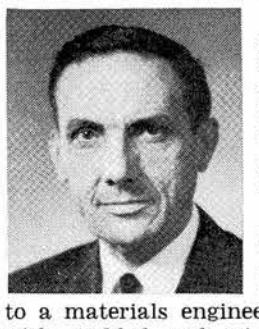
Air resistance on the disk prevents use of the sampler below about 300,000 feet; however, the device has worked satisfactorily from that point to about one million feet, the maximum altitude of the Nitehawk. Samples can also be taken on the return from apogee.

After recovery, the mylar collector is checked with various detectors and then dissolved so the embedded particles can be further analyzed. Information on radioactive particles is correlated with information gathered and relayed by beta and gamma detectors mounted on the front of the sampler.

The Nitehawk is a Sandia-developed nine-inch-diameter rocket composed of a Nike M-5 first stage and a Tomahawk TE-416 second stage. It will carry a 125-pound instrument package to altitudes of about 200 miles.

G. H. Miller and R. I. Ewing (both 5241) were scientific consultants for the project. K. H.. Cordes (9224) was project engineer.

L. G. Rainhart Observes 25th BTL Anniversary



L. G. Rainhart of Materials & Process Engineering Division 1124 observed his 25th anniversary with Bell Telephone Laboratories Sept. 25.

Mr. Rainhart joined Sandia in 1954, and was assigned at that time to a materials engineering group working with molded and reinforced plastics. He was section supervisor of the group from 1957-65.

Mr. Rainhart came to Sandia from BTL's Whippany (N.J.) laboratory, where he had been a mechanical project engineer working on development of the Terrier system antenna. Previously he had been assigned to Bell's Murray Hill (N.J.) and West Street (New York City) laboratories with materials engineering responsibilities in the plastics field.

Weapon Evaluation Group Meets at Sandia Laboratory

Forty-seven representatives of Atomic Energy Commission weapon laboratories and the Department of Defense attended a two-day meeting at Sandia Laboratory recently as part of a Weapon Systems Evaluation Group, Institute for Defense Analysis (WSEG/IDA) study.

The meeting was arranged to provide information on weapon system reliability factors for certain missiles. The main purpose of the study is to confirm weapon system reliability factors for the missiles.

The program included briefings, discussions, and examinations of pictorial representations and mockups.

Brig. Gen. Robert C. Richardson, III, Field Command, Defense Atomic Support Agency, opened the meeting. R. L. Book, director of Quality Assurance Division, AEC Albuquerque Operations Office, then discussed the AEC integrated contractor complex.

Sandia speakers on the program included L. J. Heilman (2100), J. M. Wiesen (2150), R. H. Schultz (2120), M. O. Jones (8123), J. C. Bozone (2133), R. D. Christopher (2125), W. J. Denison (2121), and C. R. Barncord (8120).

W. A. Sherman (2114) was the Sandia program coordinator.

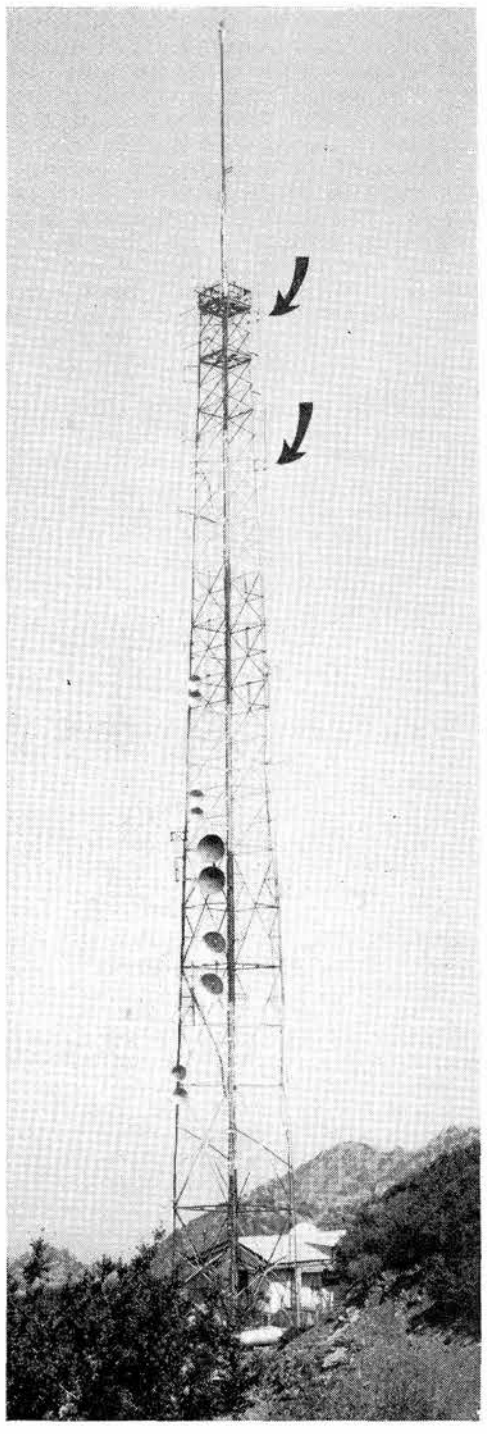
LIVERMORE NEWS

Boost in Power at Sandia's Relay Station Improves Radio Network

Sandians who drive AEC vehicles in the Bay Area now receive radio messages more clearly and at greater distances than ever before.

This improved communication is a result of a power boost (from 15 to 60 watts) at Sandia's relay station located on top of Mount Diablo near Livermore.

Sandia has approximately 30 motor vehicles of various types which are used by field representatives and motor pool, maintenance, and other employees who perform liaison work in nearby cities. These vehicles are equipped with two-way radios to form a communication network with SCLL.



TWO SANDIA RADIO ANTENNAS are among the 50 positioned on this 225-ft. tower atop Mt. Diablo. Upper arrow points to the Sandia antenna for transmitting; the lower arrow, the antenna for receiving.

"With the additional power, communication coverage is increased roughly from a 35-mile to a 70-mile radius," according to J. E. Miller, supervisor of Shipping, Motor Pool, and Material Handling Section 8245-2.

"In addition," he adds, "dead spots within this area have been reduced approximately 50 percent."

The network operates through the Mount Diablo relay station which includes a building and a 225-foot steel tower. The tower is a primary transmitter tower for the Bay Area. Of the more than 50 antennas on the tower, two are used by Sandia—one for transmitting, the other for receiving.

Recently, Sandia installed a new unit in the building to boost the station power. This unit, which consists of a receiver, transmitter, power supply and control panel, is of the latest design.

"The original equipment was considered the best when installed in 1959, but it has become outmoded," says E. E. Alford, supervisor of Material Services Division 8245. "This equipment incorporates the most recent advances in radio communication; for example, the receiver section is fully transistorized."

L. C. Skipper, owner of Associated Electronics, a private firm in Livermore, has serviced and maintained the equipment for Sandia since its installation in 1959.

"The station has a most interesting history," he says. "It was originally built in 1957 for television Channel 13, but they stayed only a little over a year. Diablo Communications took it over in 1958 and began renting space for individual relay stations. The Red Cross was the first of these, Lawrence Radiation Laboratory second, and Sandia was number three. Since Sandia was one of the early installers, they were able to get a choice location near the top of the tower for their antennas. Now equipment for about 25 stations is being maintained in the building with associated antennas on the tower."

R. E. Wilhite of Plant Engineering Planning Division 8251 was responsible for selecting the necessary equipment to upgrade the network and for overseeing the installation.

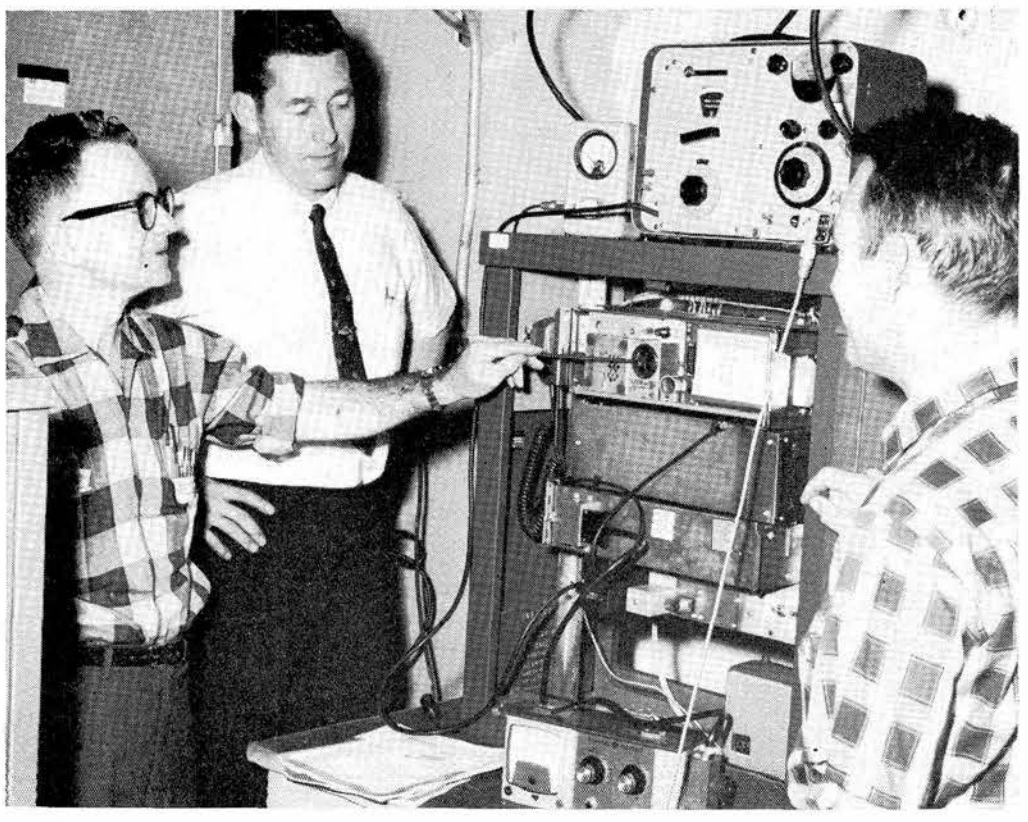
Congratulations

Mr. and Mrs. Walt Maupin (8124), a daughter, Martha Elizabeth, Sept. 27.

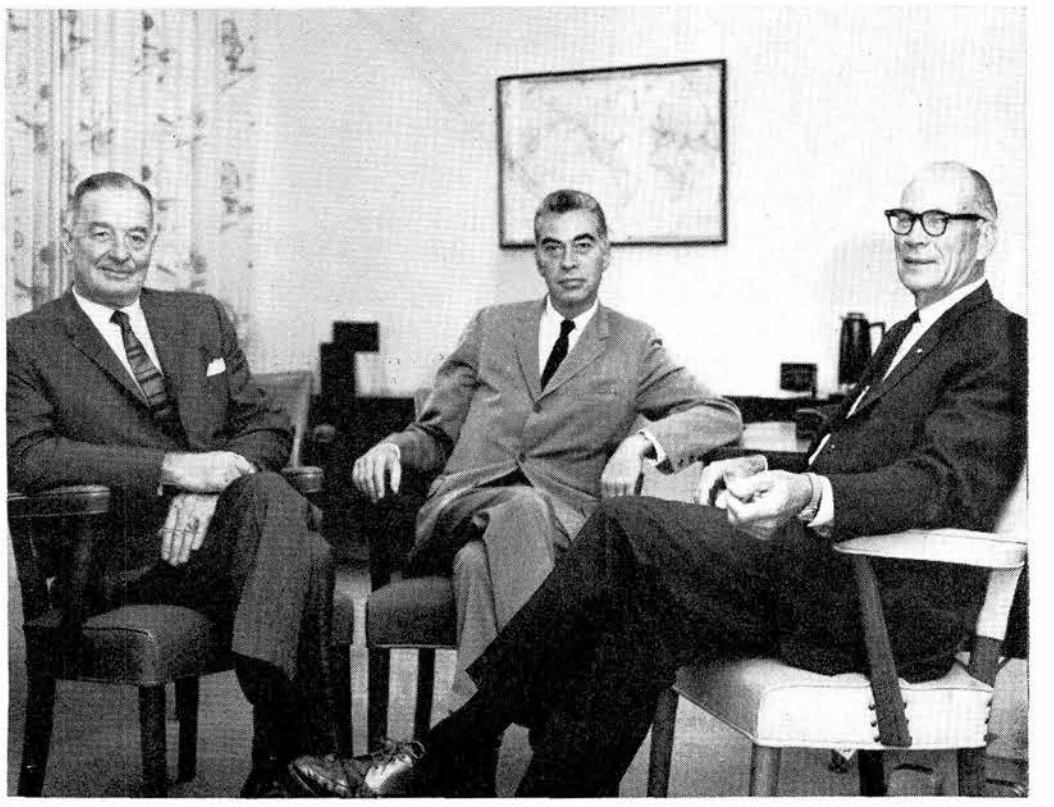
Sympathy

To Chandler Smith (8243) for the death of his mother in Charles City, Iowa, Sept. 5.

To Bob Tirnetta (8245) for the death of his grandmother in Livermore, Sept. 20.



FINAL CHECKOUT of new equipment installed recently in Sandia's relay station located on Mount Diablo is made by (l to r) L. C. Skipper, Associated Electronics of Livermore; E. E. Alford, Material Services Division 8245; and R. E. Wilhite, Plant Engineering Division 8251. The new equipment boosts the station from 15 to 60 watts of power to provide an improved radio communications network between Sandia vehicles in the Bay Area and Livermore Laboratory.



S. P. SCHWARTZ, retiring Sandia President (left) and his successor, J. A. Hornbeck (center), held informal discussions with B. S. Biggs, Vice President 8000, during a visit to Livermore Laboratory Sept. 28. At a meeting of SCLL supervisors, Mr. Schwartz spoke briefly and Mr. Hornbeck was introduced to the supervisory staff. After a briefing by the 8000 staff, the visitors toured the Laboratory and met with officials at Lawrence Radiation Laboratory.

Livermore Laboratory Colloquium's First Speaker is LRL's Dr. C. E. Leith

A Livermore Laboratory Colloquium was inaugurated at SCLL this week. The first speaker before the colloquium on Oct. 4 was Dr. Cecil E. Leith of S-Division, Lawrence Radiation Laboratory, Livermore, who discussed "Numerical Simulation of the Earth's Atmosphere."

The general purpose of the series is to keep the Laboratory staff informed on recent advances and interesting topics in the applied sciences.

"We plan to invite speakers who will cover a large spectrum of subjects," said G. W. Anderson, Jr. (8140), chairman of the Livermore Colloquium Committee.

"Primarily, will be covering topics which are beyond the normal workday interest of the staff, such as bio-engineering, sea water conversion, and medical research. Hopefully, we may also derive spin-off from seemingly unrelated subjects, and some speakers may prove a source for future consultation," he added.

Normally, the colloquium will be held the first Tuesday of each month; however, the exact schedule will depend on the speaker's availability. Due to limited space, tickets will be distributed through department offices.

Each session will consist of a lecture, approximately one hour long, followed by a question and answer period. Upon completion of the formal presentation, the speaker will usually be available for individual consultation or discussion.

Other members of the Livermore Laboratory Colloquium Committee include: A. N. Blackwell (8149), W. A. Jamieson (8235), G. R. Marguth, Jr. (8127), and J. M. Stephenson (8132).

Information and details concerning future speakers will be posted on SCLL bulletin boards.

Livermore Notes

Jim Brock, supervisor of Communications, Drawing Reproduction, and Product Definition Control Division 8253, was crowned "Boss of the Evening" at the second annual "Boss Night" held recently by Livermore Valley Charter Chapter of the American Business Women's Association. He spoke on behalf of all bosses in accepting the honor.

Ferne Saylors (8253), president of the chapter, was presented a trophy as the chapter's "Woman of the Year" and a candidate for the national honor to be awarded this month in Tulsa, Okla.

Approximately 70 chapter members and their bosses attended the dinner event at Castlewood Country Club.

* * *

Lawrence Radiation Laboratory Recreation Association (RLRA) has announced that badminton for men and women, beginners and more experienced players, has resumed every Tuesday and Thursday evenings from 7:30 to 10 p.m. in the Livermore High School Girl's Gymnasium. For further information, contact E. Southwick at LRL, ext. 8420.

* * *

Winners in the Livermore Camera Club May-August black and white print competitions included two entries by Arlyn Blackwell (8149), "Mission Ruin" and "Farm by the Hills."

According to Arlyn, the club currently is preparing work for display in the Livermore Art Association's Fall Festival of Art. Information regarding the organization can be obtained by calling him at 447-1930.

Chabot College Lecture Series to Feature Theatre Personalities

"The Play's The Thing," is the theme for the 1966-67 Chabot College Lecture Series, which is being presented by the College as a community service. Four well-known speakers from the American theatre will be featured during the series.

Marc Connelly, Pulitzer Prize-winning playwright, opens the series Nov. 7 at 8 p.m. in the gymnasium at the Chabot campus in Hayward. He will speak on "Adventures of a Playwright."

Other speakers scheduled for the series include: Dr. Robert E. Lee, well-known playwright, who will discuss "Ideas on Trial," Dec. 5; Vincent Price, actor and critic, will speak on "An Actor's Life for Me," Jan. 9; and on Feb. 20, director and playwright Joshua Logan's topic will be "The Fabulous World of the Theatre."

Season tickets can be purchased by sending $3.50 to the Office of Community Services, Chabot College, 25555 Hesperian Blvd., Hayward, Calif. Individual tickets for each program will be available at $1.50 each at the door.

DISCUSSING AN UPCOMING PROGRAM for a Sandia Research Colloquium are committee members (l to r) Jerry D. Kennedy (5133); Crawford J. MacCallum (5231); George W. Arnold (5211); Mrs. Loyce Gambrel (3131), secretary; James M. Peek (5121); and Robert L. Kruse (5256), chairman.

Five-Man Colloquium Committee Plans for Tri-Monthly Meetings

Robot design, omega minus particles, synthetic food production—these are the diverse topics recently presented in Sandia Research Colloquia.

The responsibility for planning these lectures rests with the five scientists who comprise Sandia Laboratory's Research Colloquium Committee: James M. Peek (5121), Jerry D. Kennedy (5133), George W. Arnold (5211), Crawford J. MacCallum (5231), and Robert L. Kruse (5256). Mrs. Loyce M. Gambrel (3131) is the permanent secretary.

"Someone who has not served on such a committee might not realize how much effort is needed to provide a smooth-running program," comments Robert Kruse, the current chairman of the committee.

The Research Colloquium Committee meets once a month to plan programs that will be of interest to Sandia staff, to evaluate past lectures, to receive suggestions, to invite speakers, and to select hosts for guest speakers. The host then arranges the speaker's schedule, introduces him at the lecture, and coordinates his visit.

The colloquium secretary and the chairman are kept very busy working with the hosts, arranging scheduling of the lectures, and handling the many details and last-minute problems inherent in such a program.

General purpose of the Research Colloquia is to keep Sandia staff members informed of recent advances and interesting topics in the basic and applied sciences, and of theories, problems, and policies of national defense and nuclear energy pertinent to the research and development programs of Sandia Laboratory.

In carrying out this purpose, the committee plans some colloquia of broad scientific interest, some by Sandians about Laboratory projects, plus a few geopolitical subjects which are pertinent to Sandia programs.

"We want to be alert to what other Sandians believe would be valuable subjects and to receive suggestions for speakers who have made important contributions to their specialties," chairman Kruse added as he checked correspondence with speakers for upcoming colloquia.

The committee was organized five years ago by R. S. Claassen, director of Physical Research, 5100, to establish the purpose of the colloquium and to simplify the procedure for inviting speakers and arranging the programs. The committee members usually serve several years. Chairmanship of the committee is rotated among the members on a five-month basis.

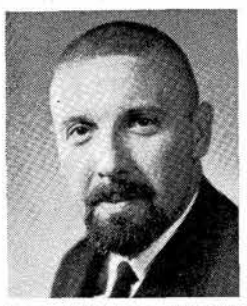
An average of three colloquia a month are scheduled. These are usually arranged about three months in advance.

Attendance at the colloquia in the Laboratory auditorium (Bldg. 815) is usually open to Sandia staff and visitors from Kirtland, UNM, and elsewhere. Attendance at classified colloquia, however, is limited to those obtaining tickets through their departments.

Research Colloquium speakers for this month and their topics are: Professor Otto Laporte, Physics Department, University of Michigan, "Radiation Transport in Shock Phenomena," Oct. 7; Dr. Edward Teller, LRL, University of California, "An Explanation of Quasars," Oct. 11; Professor Kurt Just, Physics Department, University of Arizona, "Multi-Baryons and Many-Body Forces," Oct. 19; Dr. Lewis M. Branscomb, Joint Institute for Laboratory Astrophysics, University of Colorado, "Negative Ion Reactions which Control Free Electron Density in the Mesosphere," Oct. 26.

Requests for information about forthcoming speakers and tickets should be referred to Mrs. Gambrel at 264-8605. Suggestions should be referred to any member of the committee.

Supervisory Appointments



JOSEPH F. CALEK to supervisor of Quality Assurance Data and Reports Division 2112, effective Oct. 1.

After joining Sandia in October 1954, Joe worked as an instructor in the technical training group for about a year. He then transferred to the employee training group where he worked on program development for out-of-hour courses for three years. In September 1959, he transferred to quality assurance component evaluation. Last year he transferred to advanced program planning in the quality assurance organization.

Before coming to the Laboratory, Joe was with the U.S. Army at Sandia Base with a weapons training group.

He received a BS degree in electrical engineering from Illinois Institute of Technology in August 1950 and an MS in industrial education from the University of Illinois in June 1951.

Joe is a member of the Institute of Electrical and Electronics Engineers and the American Society for Quality Control.

* * *

EDWIN I. OPLAND to supervisor of Personnel Data Systems Division 3155, newly created, effective Oct. 1.

After joining Sandia in November 1958, Ed worked on skills inventory with the personnel placement group until August 1959. He then transferred to Employee Benefits Division where he was concerned with the administration of the benefits program and the development of an automated health care claims analysis. In March 1964 he transferred to Personnel Processing and Reports Division where he has been the personnel information analyst.

Ed attended Kent State University in Ohio from 1950 to 1952 and then served four years in the Air Force as a senior cryptographer. He returned to Kent in 1956 and received a BS degree in business management in August 1958.

Congratulations

Mr. and Mrs. R. A. Hill (5122), a son, Kenneth Charles, Aug. 27.

Mr. and Mrs. R. A. Damerow (5141), a daughter, Michelle Renee, Sept. 20.

Mr. and Mrs. Thomas A. Sandlin (3415), a son, Steven, Sept. 24.

JTF-2 Low-Level Aircraft Tests End in Arkansas; Sandians Return

The Joint Task Force-Two low-level flight tests, which began in late May in the Louisiana, Arkansas, and Oklahoma area, ended last week. Forty Sandians of Systems Evaluation Department 9210 have returned to Albuquerque.

The final JTF-2 tests were flown by two jet reconnaissance aircraft, the Air Force's RF-4C Phantom and the Navy's RA-5C Vigilante. The JTF-2 test was completed a week ahead of schedule, but operation of the test range continued until Sept. 30 to allow the Strategic Air Command to perform some additional tests with the B-52 Stratofortress.

Maj. Gen. Winton R. Close, JTF-2 commander, expressed gratification with the operation of the four-month-long test. "The information which was gathered is expected to be highly important as a basis for planning future needs and tactics in low-level aerial warfare. All the services ultimately will be benefited by the results," General Close said.

Nearly 1150 personnel from 28 military and five civilian contractor organizations participated in the test. The military units represented all four services: Army, Navy, Air Force, and Marine Corps. Despite the large number of low-level, high-speed missions flown, including some night flights, not a single incident or accident occurred.

The field test was conducted under the direction of Col. Donald J. Gehri, USMC, who was responsible for the operation. J. J. Miller, supervisor of Test Operations and Facilities Division 9214, was Sandia's field test director during the tests.

Purpose of the operation was to gather electronically precise, factual data on pilots and aircraft as they attempted to locate simulated targets in the Ouachita National Forest flying at altitudes less than 1000 feet above the ground. It was the second major test conducted by JTF-2. The first was staged last summer in Nevada. A third JTF-2 test is now underway in California.

In addition to the RF-4C and the RA-5C, one other reconnaissance aircraft, five types of tactical planes, and two types of strategic bombers were used in the test.

Data collected from the test were relayed back to Sandia every 24 hours for processing. Sandia Laboratory provides scientific and technical support to the JTF-2 test program.

Dr. Teller to Discuss Unusual Quasi-Stars At Sandia Base Theater

Dr. Edward Teller will discuss quasars, mysterious astronomical objects, at the Sandia Laboratory Research Colloquium at 10 a.m. Tuesday, Oct. 11, at the Sandia Base Theater (Bldg. 225) on "G" Street, west of First.

The title of the world renowned scientist's talk is "An Explanation of Quasars." Quasars are mysterious starlike objects which emit large amounts of radiation but are optically invisible.

The Colloquium was changed from the Laboratory Theater (Bldg. 815) to the Sandia Base Theater to accommodate more people. Tickets are not required.

Professor Teller is best known for his planning and prediction of the function of both the atomic and hydrogen bombs while with the war-time Manhattan Engineering District at the University of Chicago and at Los Alamos. From 1949 to 1952, he was assistant director of Los Alamos Scientific Laboratory.

Sandia Speakers

W. B. Estill, M. M. Robertson, and G. H. Conrad (all 1122), "Electron Microprobe and Electron Diffraction Analysis of Surface Replica Extractions," First Materials Research Symposium, Oct. 3-7, Gaithersburg, Md.

L. F. Parman (3420) and Brenda Bittner, Thomas Bede Foundation, "Computer Interrogation of Efficiently Stored English Language Informaton Using the N-tuple Pattern Recognition Technique," 29th annual meeting of the American Documentation Institute, Oct. 3-7, Santa Monica, Calif.

R. G. Kepler (5213), "Generation of Electrons and Holes in Low Mobility Insulators" (invited paper), National Academy of Sciences-National Research Council, Oct. 3-5, Pocono Manor, Pa. F. N. Coppage (1413) was chairman of the session on Radiation Effects in Insulators.

Lloyd Rutledge Takes Honors in New Mexico Cowboy Polo Tourney

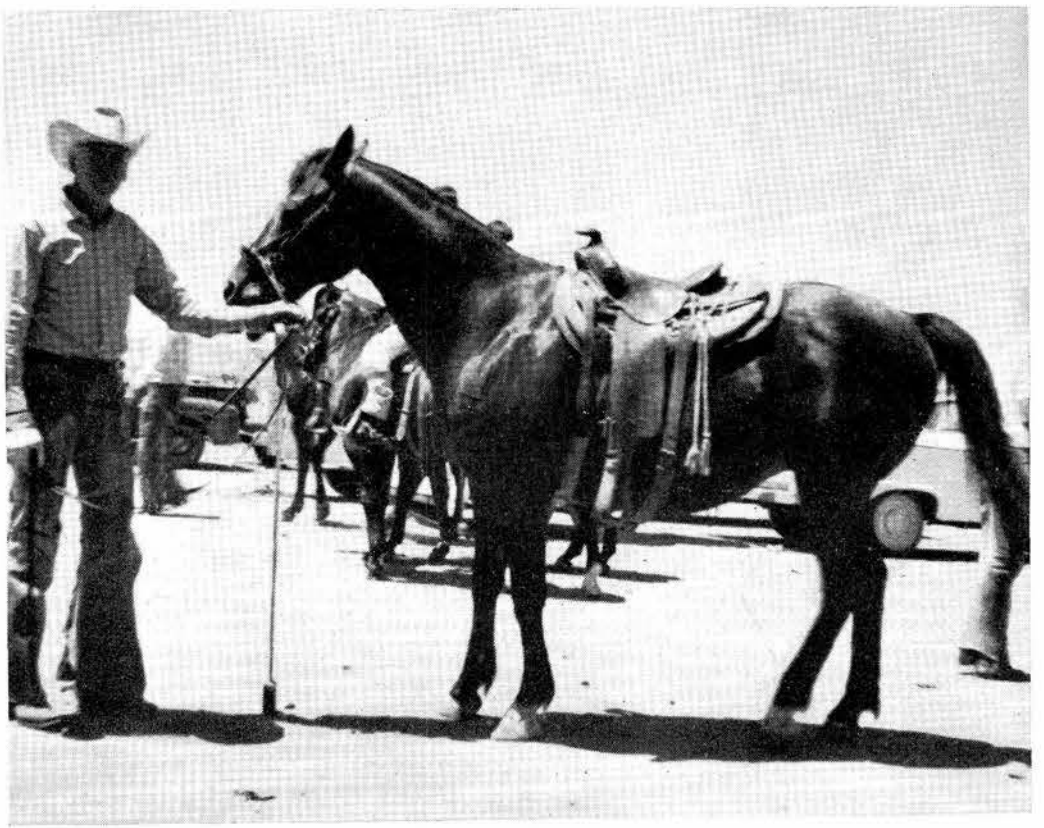
A 57-year-old Sandian riding an 18-year-old horse was recently named to the All Star team after a state tournament in one of the roughest sports around — cowboy polo. Lloyd Rutledge (4613-2) is the Sandian and he has earned the honor in New Mexico cowboy polo competition every year since 1960.

In addition, he was granted the "Sportsmanship" award during the Labor Day tournament this year at Las Cruces. Lloyd plays first forward position for the Albuquerque Cowboy Polo team which took third place in the tourney.

Cowboy polo differs from regular polo in that the five players on a team are limited to their assigned zone on the field. The ball used is about the size of a basketball. Regular polo balls are much smaller. Still, it's a fast game requiring top horsemanship, physical coordination, and stamina.

The sticks used to knock the ball around are long-handled fiberglass jobs with rubber heads. A man could get clobbered. Lloyd has never been hurt but he has come close on a few occasions.

He started playing the game about nine years ago when the Bernalillo County Sheriff's Posse organized the first cowboy polo game in New Mexico. Lloyd took to it from the start. He figures that if his horse, Buckaroo, can continue to take the action, so can he.



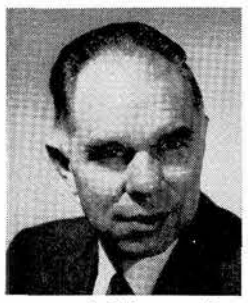
LLOYD RUTLEDGE (4613) and his 18-year-old mare, Buckaroo, pose prior to the State Cowboy Polo tournament played in Las Cruces Labor Day. Lloyd was granted the Sportsmanship award and named to the All-Star team.

Nuclear Energy to Serve Future Power Needs

The following article consists of excerpts from a speech delivered this summer by Glenn T. Seaborg, chairman of the U. S. Atomic Energy Commission, at the National Association of Manufacturer's Conference on Industrial Science and Technology.

Chairman Seaborg discusses nuclear energy as a source of electricity, the development of reactors, and the international cooperation and considerations in reactor fuels and use.

* * *



Energy statistics in general can give us a remarkable picture of the growth of a technological society. Electricity generated by a variety of energy sources seems to be our most useful and versatile form of power today and because of this our demand for it is growing rapidly. In the U.S. the demand for electricity has been doubling about every 10 years. Current annual electric generating capacity in the U.S. is about 250,000,000 kilowatts. It is forecast to be approximately 520,000,000 kilowatts by 1980, and about 1,600,000,000 kilowatts by the year 2000. At that time—only 34 years away—the world generating capacity should be more than 7,000,000,000 kilowatts.

Startling as these projections may seem, they will probably prove to be quite conservative. Each day brings across my desk ideas and plans for solving some of man's many problems and for promoting human progress in a variety of ways. And characteristic of most of these, though not always obvious, is a substantial new energy requirement. The fulfillment of such energy requirements is usually taken for granted or glossed over by most of us most of the time. We may perhaps consider the cost of fuel or power in our projects and projections, but the future abundance of them is never a major concern to most people. We just do not conceive of the idea of an energy-depleted civilization—ours—slowly grinding to a halt.

But considering the projected world population growth—six billion people by the year 2000—and the need to raise considerably the living standards of a larger percentage of the world's people, future energy requirements do become staggering. And, considering these requirements, it is most fortunate for man that some twenty-odd years ago he was able to discover an entirely new way to extract energy from nature—that he was able to harness the fissioning nucleus of the atom. . .

Accelerating Growth

In the past two years, the nuclear power industry has kept its foot on the accelerator, and sales of nuclear power plants, which were about 2,000,000 kilowatts in 1963-64, rose to over 5,000,000 kilowatts in 1965, and to date in 1966 they already total nearly 7,000,000 kilowatts. . . .

The energy market is still a very competitive market. Nuclear energy is obviously making gains in areas which have high cost conventional fuels. In areas which have low cost fossil fuels, the fuels such as coal still dominate. Further, nuclear power plants seem to be competitive only in the very large sizes—400,000 or more kilowatts. . . .

There should be no fears of an overnight change in traditional patterns of energy use, but, as in all things, gradual change will occur. Nuclear energy will be used increasingly for those purposes to which it is best suited—the large-scale production of electricity. Other energy sources will find their growing uses in those areas to which they are best suited. Our real concern will never be "Is there a great enough market for our energy resources?" but rather "Are our energy resources sufficient to meet the growing demands of the market?"

Reactor Development

Since the earliest days of nuclear reactors, there has always been a plethora of reactor types—graphite moderated, heavy water moderated, light water moderated, organic moderated, and even nonmoderated reactors—employing even more coolants—helium, carbon dioxide, air, light water, heavy water, organic materials, sodium, lithium, bismuth. . . .

In the development of nuclear reactors here in the United States there was an early and strong interest in fast breeder reactors—that is, reactors which produce more fissionable fuel than they consume. But the reactor type which has received the most attention, which has been developed to the highest degree, and which today is serving as the backbone of the commercial nuclear power market, is the light water moderated and cooled reactor of either the pressurized water reactor type, pioneered by the Shippingport and Yankee reactor plants, or the boiling water reactor type, pioneered by the Experimental Boiling Water Reactor and Dresden plants. Large strides have indeed been made in the development and commercialization of these reactor types, and with future improvements there will be a strong continuing market for these plants in the coming years. . . .

In 1962 the future development of nuclear reactors was split broadly into two categories—one the advanced converter reactors—the other the breeder reactors. The advanced converter reactors which were seen as technically closer at hand than the breeders, held the promise of better utilization of uranium fuel than the present water reactors, in some cases through the utilization of thorium. This promise of better fuel utilization was considered an important factor in conserving our nuclear fuel resources until such time as we could perfect the more efficient breeder reactor. The breeder reactors appeared in 1962 to have a more difficult development program ahead of them, although they promised to be close to the ultimate in their utilization of nuclear fuel. If this promise were realized they could become the most economic reactors of all.

AEC Development Plan

Since 1962 the Commission has followed this general plan: Today we have under development a high temperature gas-cooled reactor, a seed and blanket reactor, and a heavy water moderated organic cooled reactor in the advanced converter category. These reactors can all take advantage of the thorium fuel cycle. We are continuing an aggressive program on the development of breeder reactors with emphasis on the fast, liquid metal cooled breeder reactors operating on the uranium-plutonium cycle, although continued support is also being given to other types of cooling for these reactors and to thermal breeder reactors like the molten salt reactor operating on the thorium-uranium-233 cycle. . . .

All of the nuclear power reactor types presently being developed in the United States for the commercial market utilize either slightly enriched uranium or more highly enriched uranium or plutonium. For example, the light water moderated and cooled reactors use slightly enriched uranium as do the organic cooled heavy water reactors. The other reactor types use combinations of highly enriched uranium or plutonium with fertile materials such as natural or depleted uranium or thorium.

We do not find such emphasis on enriched fuel throughout the world. While the Soviet Union is emphasizing the development of slightly enriched uranium reactors, the development of reactors in Canada and France has been patterned on the use of natural uranium as a fuel, with heavy water in the Canadian case, and graphite in the French case as a moderator. The United Kingdom has already built a sizeable nuclear generating capacity, presently based on natural uranium fueled, graphite moderated, gas-cooled reactors. The next step in the United Kingdom's development is an advanced gas-cooled reactor using slightly enriched uranium.

Other nations are in a sense hedging their bets by following both fuel routes and procuring or developing slightly enriched uranium ractors as well as natural uranium fueled reactors. It should be noted that there is less interest in advanced converter reactors abroad. Most foreign programs seem to be seriously committed to the development of breeder reactors. There are, of course, exceptions such as Canada, which is basing its future in large part on converter reactors with its heavy water moderated reactor program.

While it is still too early to be definitive, it does appear that reactors fueled with slightly enriched uranium have the economic edge in most areas of the world over those fueled with natural uranium, but again this will vary from nation to nation and depend on natural fuel resources and national economics and financing methods. Certainly in the United States there is little question that slightly enriched reactors will be more competitive. In this country we have the advantage of large existing uranium enrichment facilities, the gaseous diffusion plants at Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio. These large and efficient facilities constructed originally for military purposes are ready now to serve the peaceful needs of our country.

International Cooperation

Since the Atomic Energy Act was amended in 1954, and cooperation in nuclear energy with other countries was made possible, the United States has had as its avowed policy the sharing of knowledge and ability in the peaceful uses of nuclear energy with all nations. In line with this policy we also stand ready to furnish to the other nations of the world on a fair and equitable basis the fuel material—such as slightly enriched uranium—necessary for them to carry out their peaceful nuclear programs.

The projected growth of civilian nuclear power abroad is as impressive as that here at home. In fact, at this point in time, the U.K. leads the U.S. in total installed nuclear capacity. . . .

The impact of rapid growth of nuclear power both here and abroad will have dramatic effects on a series of peripheral industries—from the uranium mining industry to the zirconium industry, from the fabrication of huge pressure vessels to the fabrication of reactor instrumentation.

One specific area of the nuclear fuel cycle which will attract increasing consideration in the coming years undoubtedly will be the uranium enrichment facilities. At the present time, only three countries in the western world have such facilities—the United States, the United Kingdom, and France. In all cases, the facilities are government-owned and the technology is classified. Of those in the western world, the United States enrichment facilities are by far the largest and they are the most economic. Further, the United States has developed the technology of gaseous diffusion to a greater degree than the others, so that future plants, if and when needed, can be constructed quite economically. . . .

Not Without Danger

While the growth of nuclear power both here and abroad appears full of promise, it is not without its danger. I am sure we are all aware of the intensive discussion and negotiations which have been taking place recently concerning means of preventing the proliferation of nuclear weapons. While nuclear weapons require the use of highly enriched uranium, the use of slightly enriched or natural uranium for fuel in reactors results in the production of plutonium which is separated and purified in the chemical reprocessing. This plutonium can be used as a fuel for the further production of electricity or it can be one of the explosive ingredients in a nuclear weapon. And this plutonium will be produced throughout the world by 1980—if our projections are correct—at the rate of more than 100 kilograms a day! In other words, material will be produced over the face of the globe sufficient for the potential production of a substantial amount of the world's electrical power—or, alternatively, sufficient for tens of nuclear weapons a day.

There are some who would say that the only rational course is to bring an abrupt and complete halt to the development of nuclear power here and now; that the price we pay for a little additional energy is much too high for the risk of nuclear annihilation, and that no adequate means of control can be developed to insure, in fact, that these nuclear fuels will not be misused.

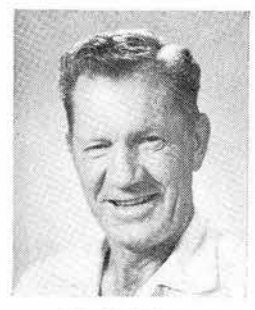
Positive Approach

But most of us know that such thinking is not fully realistic. Even in the early days of nuclear development, while there were some who felt we could hold back all our information and discoveries on this new form of energy, thus keeping others from obtaining nuclear weapons, most of us knew that it was only a matter of time before other countries could achieve a nuclear capability independently of us. The major secret of the atomic bomb was that it worked—and this had been revealed to the world. We knew that many countries of the world had their own supplies of natural uranium and, perhaps more importantly, their own scientists. We also considered that if we failed to cooperate in sharing our peaceful nuclear technology and nuclear materials, there would be other countries which might be willing to provide nuclear materials and technology without a firm assurance as to their eventual peaceful end use.

Choosing, therefore, a more positive approach and one of constructive leadership, the task of the United States has thus become not a matter of forbidding the further spread of nuclear science, but rather one of helping other nations to develop the peaceful uses of nuclear energy under conditions which assure the peaceful use of nuclear equipment and materials which we supply.

Deaths . . .

E. O. Baca



R. L. King

Catherine Norton

M. Ruth Simpson

Emiliano O. Baca, a janitor in Division 4574, died Sept. 11 after a long illness. He had been on a leave of absence since April 6. He had been employed at Sandia since 1952.

* * *

Rupert L. King died suddenly Sept. 18. He had been a utility operator in Division 4614 since September 1948. He was 54.

* * *

Orlando K. Tulk, a retired Sandia employee, died Sept. 18 in West Plains, Mo. He was 83.

Mr. Tulk retired from Sandia Nov. 5, 1953, after working six years as a pipefitter in maintenance organizations.

* * *

Charles L. Carpenter, supervisor of Division 1511 in Systems Development Department, died Oct. 3 in a Denver, Colo., hospital. He was 51.

He had been employed at Sandia since January 1952. Since March 1956, he had been project leader for a weapon development group.

Catherine Norton, an editorial assistant in Technical Information Division I, died suddenly Sept. 21. She had been employed at Sandia since April 1951.

* * *

M. Ruth Simpson, a secretary in Division 3126, died Sept. 26 after an illness. She had been employed at Sandia since October 1958.

O. K. Tulk

C. L. Carpenter

In Managua, Nicaragua

Lee Parman to Spend Month as Director of Information Center

Lee F. Parman, manager of Technical Libraries Department 3420, will serve as director of the Technical Information Center of the U. S. Atomic Energy Commission Science Center which will be operated in Managua, Nicaragua, from Oct. 15 through Nov. 13.

The Technical Information Center is part of the "Atoms in Action" Nuclear Science Demonstration which is one of two presentations in the AEC's overseas exhibit program to encourage the exchange of scientific information between U. S. scientists and their colleagues abroad. The exhibit is being presented at the invitation of the Government of Nicaragua and in cooperation with the nation's Ministry of Economy.

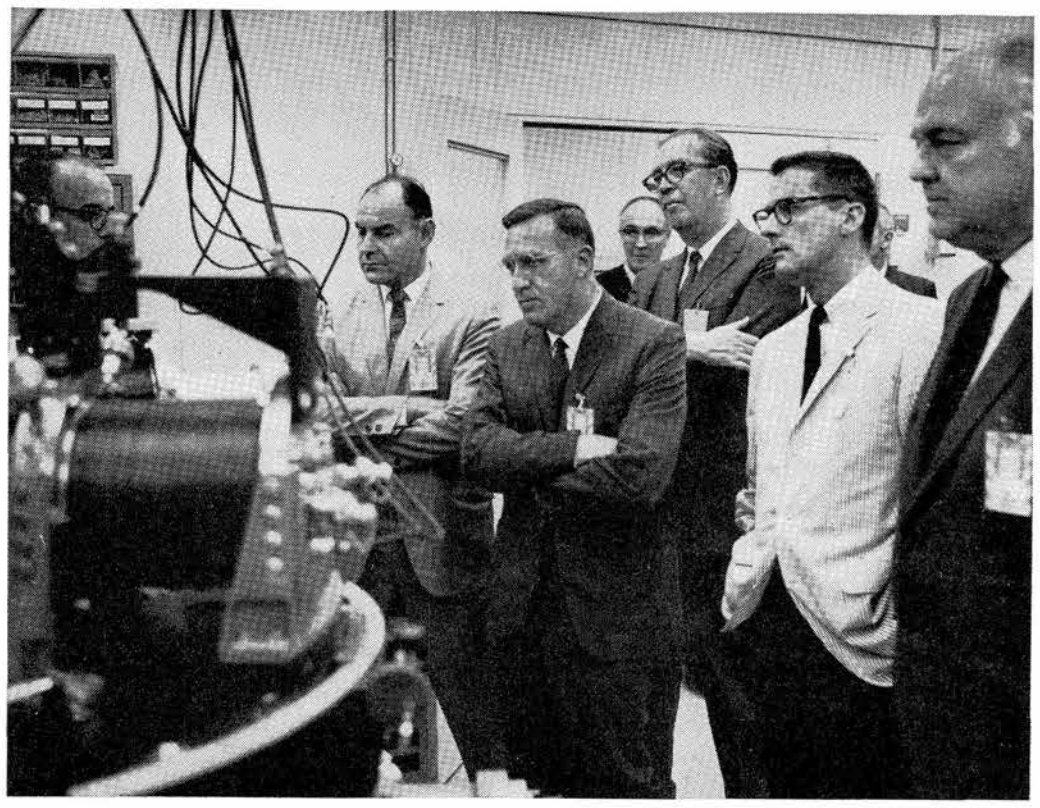
Primary objectives of the Demonstration Center are to acquaint the general public with the principles and uses of atomic energy; to enable the Nicaraguan scientists and students to perform investigations with the aid of the Center's operating nuclear equipment; and to provide Nicaraguan secondary students and their science teachers an opportunity to explore new areas of science, particularly nuclear science.

Mr. Parman will be responsible for the Technical Information Center and an adjacent film viewing room.

Reference material in the Technical Information Center is devoted to peaceful applications of atomic energy. It includes selected examples of literature published by the AEC in various fields of nuclear science, such as research and development reports, journals and periodicals, reference compilations, and books. The collection includes books and periodicals produced by private U. S. publishing firms on a variety of nuclear subjects. Motion picture films on various nuclear science subjects will also be available.

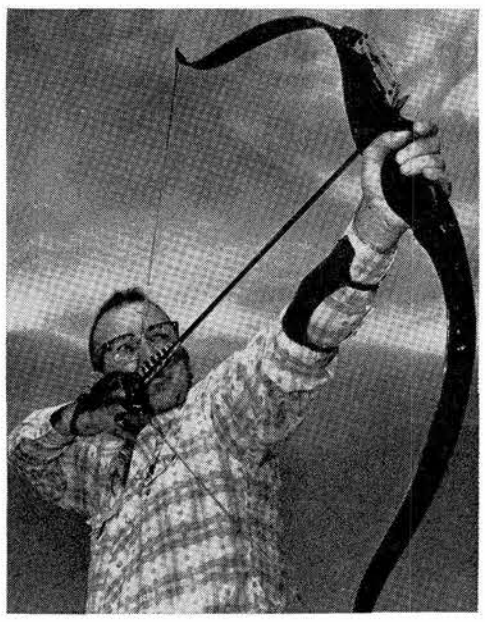
In addition to operating the reference center and film presentations, Mr. Parman expects to visit many of the libraries in the country and, if sufficient interest is shown, he will present a brief course in library science, oriented toward the use of literature on atomic energy.

Mr. Parman expects to return to the Laboratory from the temporary assignment at the end of November. He joined Sandia as a technical writer in 1953 and was named supervisor of the Technical Information Division in 1956. One year later he was made supervisor of the Technical Libraries Division. He has held his present position since December 1963.



NEWS MEDIA EXECUTIVES recently visited Sandia for a tour of some research laboratories and to see a new film entitled "Spinoff." Grant J. Lockwood (5241), partially obscured on the left, explains the operation of a heavy ion accelerator to (l to r) Jerry Danziger, general manager, KOB-TV; Robert A. Brown, executive editor, Albuquerque Journal; Ray B. Powell, vice president 3000; George Carmack, editor, The Albuquerque Tribune, Charles Jones, Jr., program director and station manager, KGGM radio; and Bruce Hebenstreit, station manager, KGGM-TV.

Herb Jewett Uses Bow and Arrow To Down Antelope in Special Hunt



HERB JEWETT (4221) draws short 50-pound bow used in hunting. Arrows are about 27 inches long, have three-bladed steel hunting tips.

Herb Jewett (4221) gave up conventional hunting with a rifle about six years ago. He became a bowman, a hunter with one of man's most ancient weapons.

"Early man probably went hungry a great deal of the time," Herb says. "The animal has the breaks. The archer needs to be fairly close, needs a clear open shot, and he needs luck."

Luck was with Herb earlier in the season. He bagged an antelope during the special archer's hunt at Lovelace Ranch about 10 miles south of Corona. It was one of two hunts in specially designated areas in the state exclusively for archers. About 100 bowmen participated in the hunt at Corona and some 30 bagged antelope.

Herb's daughter, Sandra Moore (4333), was one of the disappointed archers. She has recently become an enthusiastic archer and is looking forward to more hunts.

"Archery is a family sport," Herb says. "Most bowmen are target shooters rather than hunters and this is great fun. The Sandia Archers is a happy organization of bowman and welcomes beginners. The group meets often and sponsors periodic tournaments. Call Alan Swain (2152), 265-0098, if you're interested in archery."

Sandia Authors

B. T. Kenna (1121) and Moses Attrep, Jr., East Texas State University, "Ratio of Induced Fission versus Spontaneous Fission and the Trace Element Analysis in Pitchblend," Vol. 28, JOURNAL OF INORGANIC AND NUCLEAR CHEMISTRY (published in England); B. T. Kenna and F. J. Conrad (both 1121), "Fast Neutron Flux Pattern for a 14-MeV Neutron Generator," Vol. 12, 1966, HEALTH PHYSICS.

F. J. Conrad and B. T. Kenna (both 1121), "Rapid Spectrophotometric Determination of Copper in Ferric Chloride Etching Bath," June issue PLATING JOURNAL; "Rapid Spectrophotometric Analysis of Gold in Gold-Plating Baths," December 1965 issue, PLATING JOURNAL.

G. W. Arnold (5211), "Radiative Recombination in Annealed Electron Irradiated GaAs," Sept. 15 issue, PHYSICAL REVIEW.

G. W. Stone (9324), "Aerodynamic Stability of a Coasting Vehicle Rapidly Ascending Through the Atmosphere," September issue, AIAA JOURNAL.

R. R. Davies (4382), "Putting the Engineer on the Procurement Team," Sept. 22 issue PURCHASING MAGAZINE.

R. M. Elrick (5234), "Measurements of the Brownian Motion of a Particle in a Gas," October issue, PHYSICS OF FLUIDS.

AEC to Seek Bids on Glass Shop Expansion

Atomic Energy Commission will invite bids about Oct. 17 from small business firms only for expansion of the Laboratory glass shop (Bldg. 839). Bids are scheduled to be opened at AEC/ALO Nov. 15.

About 3900 square feet of the existing building will be renovated. Work will consist of removing and installing approximately 200 linear feet of stud partitions; revising lighting and power systems; modifying air conditioning and piping systems; installing fume hoods; relocating glass processing machines and equipment; and painting.

Estimated to cost $30,000 to $35,000, the project is to be completed within 45 days after the contractor is asked to proceed.

Jan Gaunce (3126)

Take A Memo, Please

Time taken out for safety is time well spent. It pays to be safe.

Sandians Participate in Telemetering Conference

A number of Sandians were instrumental in arranging the forthcoming International Telemetering Conference Oct. 18-20 in Los Angeles and will participate on the program. A. E. Bentz (9232) is President and Chairman of the Board of the International Foundation for Telemetering which sponsors the conference. T. J. Hoban (7212) is a Director of the Foundation and Conference Chairman.

H. O. Jeske (7211) is Conference Program Chairman and will also present a technical paper, "RF Intermodulation Characteristics of VHF Telemetry Preamplifiers and Receivers."

D. L. Trapp (9226) will be chairman of the session, "Radiation Effects on Telemetry Systems." In addition, he will present a paper, "A Miniaturized RF Acceleration Measuring System."

J. D. Moore (7211) will present "Microsecond Resolution Telemetry."

Sympathy

To Eleanor R. Kelly (3151) for the death of her mother in Albuquerque, Sept. 20.

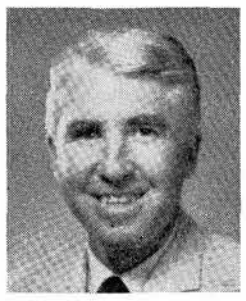
To J. B. Sweatman (4213) for the death of his sister in Oklahoma City, Sept. 15.

To Arthur Costillo (4151) for the death of his father in Belen, Sept. 27.

Promotions

Don P. Van Dyke (8232) to Staff Associate Technical
Margaret E. Lloyd (2213) to Staff Assistant Drafting
Herman P. Nieto (4573) to Automotive Serviceman
Clarence Rogers (8222) to Maintenance Man
Cecelia Griego (3126) to Typist Clerk
Danny L. Cobb (3415) to Mail Clerk
John J. Strascina (3415) to Mail Clerk
Roberta Rainhart (3126) to Typist Clerk
Roque R. Gallegos (3415) to Mail Clerk
Pilar A. Garcia (3415) to Mail Clerk
Roy P. Jaramillo (3415) to Mail Clerk
Arthur A. Sena (3415) to Mail Clerk
Molly E. Foster (3126) to Secretarial Stenographer
Lorraine V. Newman (3126) to Secretarial Typist
Margaret H. Riordan (3126) to Secretarial Typist
Brigetta Chorley (3421) to Library Assistant
Frances L. Brown (4333) to Record Clerk
Warner H. Jones, Jr. (9411) to Data Processing Clerk
Alethea L. Hill (2234) to Service Clerk
J. B. Baskett (2232) to Microreproduction Equipment Operator
Cynthia J. Harris (2232) to Microreproduction Equipment Operator
Antonia M. Garcia (2234) to Service Clerk
V. G. Dalesandro (3241) to Service Clerk
Dollie C. Harris (3421) to Editorial Assistant
Ronald G. Tremmel (8245) to Receiving Clerk
E. Jane Lord (3421) to Library Assistant
Dorothy L. Troy (3421) to Library Assistant
Gilbert G. Oliver (8134) to Technician
Robert J. Petersen (8121) to Technician
Dennis B. Sparger, Jr. (8121) to Technician
George F. Rafal (8235) to Messenger
Candis J. Lloyd (8215) to Secretarial Stenographer
Emma Jean Stuart (8245) to Service Clerk
L. Jim Connally (7341) to Laboratory Assistant
Terry E. Demaree (7341) to Laboratory Assistant
Frank Donald Kite (9312) to Staff Associate Technical
Howard E. Thomas (3244) to Staff Associate Administrative
Harvey E. Thiermann (2211) to Staff Associate Drafting
Kenneth R. Anderson (7321) to Staff Assistant Technical
Manuel Cordova (7321) to Staff Assistant Technical
William C. Purchase (4382) to Staff Associate Administrative
Marie H. Syme (5540) to Staff Assistant Technical
Earlene W. Brinegar (9319) to Staff Assistant Administrative
Jerry Meloche (4233) to Wireman
George E. Hiatt (4233) to Helper
Cosme Lovato (4518) to Laborer
Ray G. Pino (3462) to Reproduction Equipment Operator
John C. Carter (4623) to Material Handler
John R. Jewell (3462) to Reproduction Equipment Operator
Garry C. Tolbert (4513) to Helper
Vincent D. Koetter (4254) to Apprentice Machinist
John B. Kilmartin (4213) to Inspector
Luis G. Mora (4624) to Messenger
Nancy L. Moran (3421) to Library Assistant
Thomas Richardson (9411) to Data Processing Clerk
Richard J. Orzel (9412) to Keypunch Operator
B. Jeannine McCrory (2234) to Service Clerk
Betty L. Straba (2234) to Service Clerk
Ernest Sanchez (3465) to Microreproduction Equipment Operator
Robert B. Lale II (2555) to Property Clerk
Nicholas R. Montoya (4362) to Expeditor
George D. Andrews (4233) to Shop Clerk
Lawrence G. Verzi (2526) to Order Analyst
Peter J. Cocke (2523) to Expeditor
Victor S. Dominguez (8231) to Reproduction Equipment Operator
Ronald B. League (8121) to Technician
Janice L. Seibel (8149) to Secretarial Typist
Glenna M. Nieto (8156) to Secretarial Typist
Jimmy W. Ackerman (8232) to Library Assistant
Mary I. Iverson (3111) to Secretarial Stenographer
Eunice W. Frank (2130) to Secretary
Mary A. K. Campbell (3120) to Secretary
Mae T. Wood (9310) to Secretary
Marguerite M. Burrell (3133) to Personnel Clerk
Delia C. Jaramillo (1000) to Secretary
John A. Deveneau (4382) to Staff Associate Administrative
Kenneth L. Wiley (2554) to Staff Assistant Administrative
Tommie L. Bryant (8134) to Technician
James R. Rego (8134) to Technician
Frances E. Gross (4333) to Service Clerk
Helen P. Maurer (4333) to Service Clerk
C. Isabelle Fuller (4333) to Report Clerk
Joseph C. Newton (1413) to Staff Member Technical
Arthur A. York (2152) to Staff Member Technical

Service Awards



S. L. Johnson
4545

20 Years

15 Years

V. E. Arnold
2564

B. L. Baerwald
4573

R. J. Burton
7262

J. G. Chavira
4624

T. J. Chiado, Jr.
3242

E. R. Clark
2112

M. J. Connors
8235

J. W. Courtin
2432

R. S. Fox
1513

M. R. Goebel
7252

Mary Goolsby
3462

W. F. Hodges, Jr.
8241

A. S. Lucero
4611

K. O. McGinnis
4221

W. W. Olheiser
4516

D. W. Orth
4224

G. J. Pasko
2552

J. A. Sanchez
4573

E. A. Sherwood
2542

Gladys Stumpf
2433

W. B. Treharn
4514

E. W. Upchurch
1114

10 Years

Oct. 7 - 20

J. W. Kinney 1332, Lois D. Calkins 1413, B. C. Caskey 1512, S. L. Swysgood 1513, C. S. Lewis 2126, W. E. Hahn 4152, Emiliano Sanchez 4213, W. J. Moulds, Sr., 4512.

J. T. Plant 4514, M. T. Hodge 4574, J. R. Biesterveld 7253, F. R. Sweet 7264, Joyce M. Doyal 8220, H. L. Turk 3242, C. R. Burbank 4374, C. E. Smith 4575, E. W. Glaze 1431.

A. A. Netz 1322, R. L. Chapman 3154, L. T. Ritchie 5256, D. H. Cranston 2213, Ermenegildo Garcia 4614, J. H. Lovelace 7252, R. L. Ledgerwood 7341, R. M. Hargreaves 8124.

W. T. Deely 2554, J. E. Tichenor 4224, R. L. Shuman 7335, J. A. Garcia 9411, K. T. Fosmo 4611, and Helen L. Boice 7331.

Events Calendar

Oct. 7-8-9—"Who's Afraid of Virginia Woolf?" Old Town Studio, 1208 Rio Grande, NW.

Oct. 9—Fourth of July Canyon in the Manzanos (famed for its maple trees). New Mexico Mountain Club, leader A. H. Zachmann, tel. 299-6871.

Oct. 11—Deller Consort, UNM Fine Arts Concert Hall, box office tel. 277-3121.

Oct. 12—Louis Armstrong Concert, UNM Johnson Gym.

Oct. 14-15—"Half A Sixpence," Broadway musical. UNM Fine Arts Concert Hall.

Thru Oct. 16—1966 New Mexico Craftsmen's Exhibition, International Folk Art Museum, Santa Fe.

Paul Cruz Elected Vice President of N.M. AFL-CIO

Paul J. Cruz (4151-1) was elected a vice president and member of the New Mexico AFL-CIO executive board by acclamation during the recent three-day state convention in Santa Fe.

Paul is serving his fifth term as president of the Office and Professional Employees International Union, Local 251. He has been an active member of the Local for approximately 10 years.

A Sandia employee since October 1948, Paul started as an equipment operator and then worked as a warehouseman and stock analyst. He is currently an accountant.

Other Sandians who attended the state AFL-CIO convention as Local 251 delegates were David E. Salas (9411-1), steward and member of the job-grade study committee; Betty F. McKinstry (3465-1); Herman R. Perea (4575-2), trustee; and C. S. Henry, retired Sandian and member of the Local's executive board.

Welcome Newcomers

Sept. 3-21

Albuquerque
Anna M. Anderson 3126
Frances P. Armijo 2234
Dale J. Aspnes 4574
Jo Frances Bowen 4135
*Patricia A. Chisholm 4135
Margaret L. Ebaugh 4135
*John R. Ellefson 9213
Demetrio P. Gallegos 3415
Eloy N. Giron 4574
Jean L. Hill 5241
Robert B. Johnson 4115
Robert P. Kutarnia 5631
*Donna L. Lewis 4333
*Ann E. McFarland 3126
Donald E. McGinnis 3416
Pearl B. Mellone 3126
*Grandville R. Mullin 2212
Grace M. Puett 2234
Hampton C. Richardson 5241
Orlando Rodriguez 4574
Hazel A. Schuler 9412
Arizona
Peter C. Lysne, Tempe 5232
California
Frederick R. Norwood, Los Angeles 5261
Lynn V. Rigby, Santa Clara 2152
Maryland
Floyde Adams, Aberdeen 9000
Mississippi
Frank M. Raymond, Starkville 9000
New Mexico
David C. Williams, Los Alamos 5234
Jose A. Lopez, Las Cruces 1332
New York
Daniel D. Konowalow, Binghamton 5121
Nevada
William C. Vollendorf, Tonopah 7263
Ohio
Bruce W. Noel, Cleveland 7000
Oregon
Douglas C. Smathers, Hillsboro 9000
*Denotes rehire

Eleven Sandians Talk To Science Students On Chemical Safety

Eleven Sandians will participate in a special symposium on chemical safety for approximately 500 high school science students and faculty members tomorrow at Del Norte High School.

The symposium is sponsored by the Central New Mexico Section of the American Chemical Society in cooperation with the Atomic Energy Commission, Sandia Laboratory, State Board of Education, and the Albuquerque Public Schools.

L. M. Jercinovic (3210) and R. G. Elsbrock (3211) will discuss the topic "How to Present a Safety Program in School Laboratories" with school administrators, teachers, and support personnel.

Other Sandia speakers and their topics are D. A. Buckner (5154), "Pyrophorics"; R. G. Dosch (1121) and J. E. Hesse (5154), "Hazards" (energy sources); H. J. Stein and G. W. Arnold (both 5211), "Compressed Gases—Cryogenics"; F. J. Conrad (1121), P. D. Mathews (3312), and Tom Crites (3312), "Radiation"; and J. P. Grillo (3311) and Mr. Elsbrock, "Toxicity."

Second VE Workshop For AEC Personnel Ends

The second Value Engineering Workshop conducted by Division 2563 for Atomic Energy Commission and AEC contractor personnel from throughout the country closed last week. Thirty-nine representatives attended the second session following the 43 who completed a similar workshop September 12-16.

The workshops, similar to the ones conducted by Division 2563 for Sandia personnel, stress techniques which, when applied to development projects or business programs, substantially reduce costs without compromise of quality, reliability, or safety.

For the two workshops conducted at the request of the AEC, the participants brought their own projects from their agency or contractor location. After the projects were examined and subjected to Value Engineering techniques, potential savings of about $6 million were defined. Participants will take the recommendations back to their organizations for implementation.

Value Engineering and Cost Improvement Division 2563 personnel who conducted the workshop included Elmer Devor, John M. Hueter, Ken Sarason, Al Smailer, and Reuben Minter.

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

A maximum of 125 ads will be accepted for each issue.

RULES
1. ***Limit: 20 words***
2. **One ad per issue per person**
3. **Must be submitted in writing**
4. **Use home telephone numbers**
5. **For Sandia 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

CLARINET, Bundy, B-flat, w/case, $75; enlarger, Leitz, 35mm, auto focus, $35. Taylor, 256-3221.

CONCERTONE series 800 tape deck, Sansui Au 70 50-watt amplifier, A.R. turntable w/cartridge & 3 bookshelf speakers; all for $450 or separately. Baker, 344-9603.

'57 CADILLAC Coupe DeVille, all factory equipment, $495; 21" RCA TV console, walnut, $75. Wilson, 298-0049.

TENOR SAXOPHONE, $125; boy's bicycle, 26" Hawthorne, both thorn-proof tubes, two sets handle bars, $20. Vandi, 255-0685.

MINIATURE SILVER AKC registered puppies, 5 wks. *old, champion blood lines.* Doyle, 299-7567.

RARE, WHITE GERMAN SHEPHERD puppies, not albino, AKC registered. Shaw, 255-5653.

PING PONG TABLE, 8 legs, 3/4" plywood, $20; Hollywood bed frame expands 39x72, rubber casters, $4.50. Savage, 256-7263 after 5.

'56 DODGE station wagon, 318 cubic inches, AT, $225 or reasonable offer. Lemmons, 255-3029.

TIRES, used whitewalls, 4 6:50x15, $2 ea., and 1 7:00x14, $3. Coleman, 299-2377.

CUSHMAN ENGINE, $20; 6:50x16 tires, make offer; clean used block, 7c ea.; 21" reel mower, needs some work, $15. Pliner, 256-1907.

REDFIELD vairable scope, 3 to 9 power, $60. Maes, 256-7345.

PIANO, Baldwin-Howard spinet, mahogany finish, $550. Montoya, 4313 San Andres NE, 344-8416.

'63 FORD, white 4-dr., V8 engine, OD, R&H, seat belts. Van Deusen, 299-4328.

'59 FORD 4-dr. Galaxie, AC, PS, $425; clarinet. Bundy student, $62.50; 2 ea. 14" Pontiac *chrome wheels,* $17.50. Denney, 268-0004.

NEW CAMPING LANTERN; large framed bulletin *board; garden cultivator w/attachments;* adjustable trailer hitch; etc. Galbreath, 898-0644.

'55 CHEVROLET station wagon, V8, Power Glide trans., $150. Hunt, 298-8194.

'55 MERCURY 2-dr., newly painted, new upholstery, tires, stainless steel mufflers and tailpipes. Bernyk, 9309 Marron Cir. NE, Apt. A, 296-2109 after 12 p.m.

EXERCISER, bicycle type, $15. Hill, 243-3493.

TENT, 12' pyramid camping, complete w/netting, poles, and ground tarp, never used, $50. Peterson, 256-7514 after Sunday.

'56 INTERNATIONAL METRO truck, camper, 4 bunker. Costello, 299-0563.

GERMAN-POINTER-CROSS *female puppy,* watch dog and hunter potential, likes children, free to good home w/space. Colborne, 898-2317.

SEARS' ARC WELDER, 90 amps, works on 110 volts, '64 model, w/welding rods, $40. Bruce, 299-2542.

SPANISH CLASSIC GUITAR, 6 nylon string w/case, $40. Beach, 299-2990.

COMPACT ELECTRIC SWEEPER, hose short, needs new hose, all attachments, $25, cost new $195. Eaves, 299-7728.

'55 OLDS 4-dr. sedan, white, AT, $235. Shunny, *265-1620.*

TABLE, drop leaf, gateleg, hardwood walnut finish, suitable for dinette. Skidmore, 256-2176.

'65 YAMAHA 250cc, oil injected, helmet, 16 mos. old, retails for $450, sell for $425. Yuhas, 268-6269.

CATERPILLAR TRACTORS: TR-10, $550, TR-15, $950. Foster, 282-3975 after 5.

FREE KITTENS, ready for adoption, pretty, healthy, playful, 1/2 Siamese, 6 wks. old. Jolly, 877-2474.

SHOTGUN MODEL 12 Winchester, 16 gauge, 2 sets barrels, *cylinder bore and full choke,* $85; *Ruger* single action 357 Magnum, standard & target grips, $60. Dain, 255-7236.

'54 FORD station wagon, $75; gentle black gelding, good w/children, $150. Hosking, 282-3687.

TILT TOP study-ease desk-chair unit, adjustable, 6 to teen agers. Abbott, 299-8860.

'64 VOLVO 122S, 4-dr. sedan, Michelin X tires, $1600 or best offer. Kjeldgaard, 296-2212.

BOY'S BIKE; clothes of boy 14; 2 contemporary apricot color chairs, no arms; misc. baby things. McKinley, 268-4779.

LIGHT FIXTURE, brass and white, $10; maple desk, $35; milkglass boudoir lamps, w/chimney shades, $7.50/pr.; wrought iron magazine rack, $5. Newman, 256-3295.

'60 TRIUMPH HERALD, black and white, 2-dr. sedan, $295. Mason, 299-2836.

'64 PONT. 9-pass. station wagon, PB, PS, R&H, *factory air,* $2250. Todd, 268-4486.

KING-SIZE HEADBOARD, triple dresser w/large framed mirror, 5-dwr. chest, night stand in cherry wood w/pecan trim; 2 twin-size mattresses, springs, frames to fit headboard. Buchanan, 299-2587.

REGISTERED QUARTER HORSES, two mares in foal, one gelding, one filly, one palomino stallion. Scranton, 299-8801.

'58 BUICK Century, PB, PS, new tires, R&H, $275. Morehouse, 865-7765, Box 305, Los Lunas.

'66 CHEV. pickup; Quickfrez freezer, upright; house, 3 bdr., den, 1 3/4 bath, dbl. garage. Bradshaw, 268-8708.

BLACK FEMALE MINIATURE poodle, 4 mos old, had all shots, winner in Rio Grande Dog Show. Schafer, 299-4634 after 4:30.

MINIATURE POODLES, white female, no papers, $35. Lopez, 243-4355 after 3:30 or weekends.

2-BDR. HOME, $8800, well below appraisal, 2817 Monroe NE, Bel Air. Hill, 268-5980.

ENCYCLOPEDIA AMERICANA w/companion Book of Popular Science, Children's Classics, Land and Peoples, 57 volumes complete, $35. Maglidt, 268-7601.

TV, 21" table model, Admiral, highest offer. Hill, 268-1420.

SOLID OAK YOUTH FURNITURE: 2 chests, corner desk, book-case headboard, $80; Selmer Bundy clarinet, H.S. Star mouthpiece, $80; metronome, $12. Harlow, 299-1495.

14' FIBERGLASS BOAT, 40 horse Johnson, ski equipment. Burright, 299-7386.

SPRINGFIELD 03-A3, $46.50, prefer cash. Gels, 2116 Glorieta NE, 298-2059 Tues. & Thurs. only.

'53 CHEV. 2-dr. Belair, R&H, turn signals, snow tires, $100. Smith, 282-3430.

REMINGTON MODEL 870 ADL pump shotgun, 16 gauge, modified choke, $60. Wessel, 296-2526.

FREE, Siberian Husky cross pups, 8 wks. old. Harrell, 282-3251.

CELLO, full size w/new case, $160; Kenmore washer, 3-cycle, old but works, $20. Hahn, 268-5475.

'57 RENAULT DAUPHINE, 150 miles on completely rebuilt engine, new clutch, $275. Mitcham, 299-8425.

SPINET PIANO w/bench, mahogany finish. Worley, 298-4039 after 5.

TROMBONE, Olds, $100. Kohut, 298-0695.

'59 BUICK ELECTRA 225, PB, PS, electric windows and seat, $695. Schneider, 299-3769.

8'x44' 1950 model New Moon trailer, $495. Cotter, 265-8631.

POODLE, small miniature female, apricot color, 8 wks. old, $65. Tjeltweed, 299-0032.

1/2 ARABIAN GELDING, English, Western, jumps and drives, consistent ribbon winner, suitable for child or woman, very sound. Simon, 299-0703.

GIRL'S 26" bike, thorn-proof tubes and tires, $25. Taylor, 344-8176.

16' BOWMAN BOAT w/convertible top, 60HP Evinrude motor and Little Dude Trailer. Wheeler, 256-6230.

'59 SIMCA ARONDE, 4-dr. sedan, R&H, cracked bell housing needs repair, make offer. McFarling, 299-8554.

'55 STUDEBAKER station wagon, new tires, $150; '52 Club Coupe 6, $100. DeLuca, 299-1458.

MAPLE BED, $30. Hayes, 298-4682.

STRING BASS w/cover and bow, $250. Ray 299-1253 after 6.

ENGLANDER dbl. bed, box springs, mattress, metal frame $15; 3/4 Roth violin, case, stand, $55; Munsey toaster-broiler; steam-dry iron; Cub Scout uniform. Caudle, 298-9120.

'60 PONTIAC Catalina, 1 owner, Hydramatic, steering, brakes, R&H, make offer, consider trade for boat. Wardlaw, 299-7235.

'60 FORD sta. wgn., Cruisamatic, PB, PS, $585; 9x9 tent, $13; 5hp outboard, $53; car top rack, $8, B-flat Bundy clarinet, $55, lawn mower, $9. England, 299-0464.

'64 FORD FAIRLANE, 27,000 miles, Fordomatic, 4 new tires, $1350; rifles: 300 Savage w/scope and case, $85; Swedish Mauser, $33; swing set, $12. *England,* 296-1367.

SECTIONAL, $15; Accordion, $20; pair lamps, $5; 21" TV, $5; deer rifle, $10. McFall, 298-1552.

AKC COLLIES, quality, health, show potential, 8 wks. old, terms; bedroom suite, charcoal blue, make offer. Stubben, 298-6116 after 5.

'63 MELODY HOME, 3-bdr., 1 1/2 baths, 56'x10', best offer on equity and refinance balance of $3350. Montoya, 344-6222, Western Way Mobile Village, 2650 Bridge SW, Space No. 5.

CHAMPION SIRED AKC male miniature poodle, 9 wks. old, show prospect, Howerton, 299-6409, 2215 Inez NE.

S&W .357 mag., highway patrolman 6" barrel, holster and belt, $100. Rechner, 344-6148.

BLACK NAUGAHYDE couch, 1 yr. old, cost $179, sell for $100. Jarvis, 298-1113.

3-BDR. ROBERSON, 1 3/4 baths, AC, sprinklers, kitchen-fam. rm. w/fp, hw/floors, drapes-range, incl., heated garage, owner will finance at 6 1/2%, 10% down. Leeman, 9624 Shoshone Rd. NE, 299-9149.

3-USED chainsaws, $35, $45, and $55. Ernst, 344-8694.

CHAIN SAW, band saw, electric motors, 1/2-ton Air conditioner, work bench, misc. tools. Allan, 7305 Mt. Rd. NE, 256-1401.

BEDROOM SET, 3 pieces, $60; sofa and chair, $60; Silvertone TV, $20; set of stereo speakers in 2 blond cabinets, $35. Claghorn, 298-2043.

'59 BEL AIR CHERVOLET, R&H, automatic. Harshe, 268-1892.

BARN SALE: Oct. 7-8, old and new, furniture, clothing, household, and gifts. Null, 344-8549, 8905 Edith NE.

DICTAPHONE dictator in leather case, new, 1/2 orig. price. Renker, 296-3048.

REFRIGERATOR, Norge, apt. size, $50; couch, old, $5. Sanchez, 242-4556.

'60 BUICK Le Sabre, white, Dynaflow, PS, PB, R&H, $650; 30 yds. waffle carpet pad. Gorwin, 298-0113.

TENT, GI hexagonal w/liner and collapsible aluminum pole, $30; GI 2-man mountain tent w/poles and stakes, $10; aluminum packframe, $7.50. Mattox, 296-4149.

3-BDR. MANKIN, NE Heights, near schools and shopping, walled yard. AC, carpet, reasonable terms. Haynes, 298-6551.

SPINET PIANO, walnut, $300. Cash, 242-3721.

STORKLINE deluxe baby buggy, $20; 2 ceiling-*high potted plants,* $4 *and* $8. Mozley, 299-4204.

MINI TRAILBIKE, 5 hp. 4 cycle, 90 lbs., 50% grade, 20mph, $175; beer making set-up, $10. Kasparek, 344-7520.

12 LB. Sight-Feed acetylene generator, completely rebuilt, $75 or trade for guns. Flowers, 282-3458.

2 METAL TWIN BED FRAMES w/leatherette head boards, gray w/gold flecks, $15. Price, 256-6373.

WANTED

BABY SITTING *in my home, prefer pre-school children,* 316 General Hodges NE. Workman, 298-3604.

OLD but sound 4-spd. 1/2-ton truck to trade for '56 Chrysler 2-dr. Roth, 877-4997.

ORIENTAL COCKTAIL TABLE, other oriental items, also antique cut glass and pressed glass pieces. Devor, 298-9743.

GO-CART at reasonable price, need not be in top operating condition. Smith, 268-7208.

SHARE RIDE from vicinity of Lomas and Juan Tabo NE to UNM any night Monday thru Thursday from 7:30 - 10 p.m. Bartlett, 299-4861.

ANYONE possessing know-how or tool for cutting 1/4" magnetic tape from 1" tape please call Bressant, 264-8690 after 5.

WILL CARE for children in my home, walled yard, Belhaven area, 1417 Boatright Dr. NE. Farner, 299-6007.

'60 or '61 Corvair sedan, good condition and price, also Jersey or Guernsey milk cow. Netz, 282-3607.

SIZE 7 BLUE BIRD outfit in good condition. Sullivan, 299-1348.

RIDERS from Belen to Albuquerque - Sandia Corp., working hrs. from 7:30 a.m. to 4:30 p.m. *Gabaldon,* 864-7279.

ADOBE ACRES CARPOOL needs driver riders, daily driver leaves about 6:40 (7:10 winter) to start pickup, parking will be near work area of the majority. Looby, 877-2742.

RIDE from vicinity of 12th or 14th St. and Griego Rd. NW to Medical Bldg. 831. Holstrom, 344-5216.

LOST AND FOUND

LOST — 12" slide rule in plastic case, gold earring w/3 crystals, copper necklace. LOST AND FOUND, tel. 264-2757, Bldg. 610.

FOUND—*Sterling silver Virginia Military Institute "RAT" ring.* LOST AND FOUND, Tel. 264-2757, Bldg. 610.

FOR RENT

2-BDR. and den, large back yard w/*storage shed.* Barnett, 299-8485.

3-BDR., 1 3/4 baths, den, utility rm., AC, redecorated, near schools, $135. Massey, 298-1468.

OR LEASE: 1/2 acre or more NE, ideal for horse corrals. Nielsen, 345-0213.

Sandia Will Observe Fire Prevention Week with Activities October 9-15

Sandia Laboratory will join government agencies and industry throughout the nation Oct. 9-15 in observing National Fire Prevention Week. Field and Plant Operations Engineering Division 4544, which conducts Sandia's fire prevention program, has announced a number of activities in observance of the week.

Special fire drills and fire inspections will be conducted in buildings throughout the Laboratory during National Fire Prevention Week. Bulletin board posters, displays, booklets, and safety meetings will carry the fire prevention message to employees. Two movies—"Your Clothes Can Burn" and "The Science of Fire"—are available for showing at organizational safety meetings. A meeting of building fire captains and assistants will feature a movie, "Building for Safety."

A Fire Prevention Week special each year at Sandia is an arrangement whereby Sandia employees may purchase a dry chemical fire extinguisher at a reduced price. An Employee Bulletin has been distributed with an order blank and details for making the purchase. The 2¾-pound fire extinguisher will be on display and a sales representative will be on hand in Bldg. 610 during noon hours next week to take orders. The sales representative is Ted Rosenwald, retired Sandia fire inspector, who has volunteered his time to make the extinguishers available to employees.

Seven small fires at Sandia Laboratory so far this year point to the need for constant awareness of the danger of fires.

"The Sandia fire loss was $2,080," says Ward Hunnicutt, Division 4544 supervisor. "The fact that we experienced the fires is a major cause for concern. Any one of those fires could have caused monumental damage or loss of life. All of us must do our share in preventing fires, in making fire prevention part of our work habits."

The fires at Sandia this year serve as a reminder of the appalling toll of lives and property that fire takes in the United States. Last year's statistics show 12,000 persons lost their lives as a result of fire. About 30 percent of the victims were children. More than 6500 of the fire victims were in their own homes. The cost of the property destroyed by fire last year exceeded $1.76 billion.

Sandians Participate In Aerospace Conferences

R. C. Maydew, manager of Aero- & Thermodynamics Department 9320, was chairman of a technical session, "Blast Wave and Short Duration Testing," at the Aerodynamic Testing Conference in Los Angeles Sept. 21-23. The conference was sponsored by the American Institute of Aeronautics and Astronautics (AIAA).

W. H. Curry and J. F. Reed (both 9322) presented a paper, "Measurement of Magnus Effects on a Sounding Rocket Model in a Supersonic Wind Tunnel," during the conference.

Mr. Maydew was also chairman of a technical session, "High-Energy Facilities and Test Techniques," at the 26th Supersonic Tunnel Association annual meeting, Sept. 26-27 at the Ames Research Center, NASA, Moffett Field, Calif.

D. H. Johnson (9321) presented papers entitled, "Velocity Measurements in a Supersonic Arc Tunnel Using a Spark Injection Technique" (written by F. Schelby, 9321) and "Non-Equilibrium Electron Temperature Measurements in a Supersonic Arc Tunnel Using a Langmuir Probe."

MODELS for the forthcoming Coronado Club fall fashion show and dinner dance are, from left, Mrs. J. A. Reuscher, Mrs. Robert Wardlaw, Jr. (seated), and Mrs. H. L. Crumley, Jr. The event is scheduled Saturday, Oct. 15, starting at 6:30 p.m.

Take Note

Dick Jennings (4114) and his family will present a new puppet show at the First Presbyterian Church bazaar tonight. Last year's show, "Snow White," played to more than 7000 people at a number of performances during the year. Dick, his wife Phyllis, and daughters Sheryl, 10, Ginny, 9, and Glenna, 7, manipulate up to a dozen puppets at a time. This year's show is "Pinocchio" and features all new puppets made by Mrs. Jennings. A number of performances will be given tonight starting at 6:30 p.m.

* * *

"The Disney Financial World" will be presented at a meeting of the Albuquerque Chapter, National Association of Accountants, Oct. 20 at Diamond Jim's Restaurant. Speakers will be Lawrence E. Tryon, treasurer, and Donald A. Escen, controller, of Walt Disney Productions, Burbank, Calif. Anyone interested in attending should contact Fred Mitchell, 264-3360, for further details.

* * *

Sandia's man of many languages, Marcel Weinreich (3421), served as official interpreter at the International Symposium on Intensive Neutron Sources, held in Santa Fe recently. The annual meeting was sponsored by the U. S. Atomic Energy Commission and the International Atomic Energy Agency.

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Albuquerque Chapter of the Society for the Preservation and Encouragement of Barber Shop Quartet Singing in America will present a two and one-half hour "Fifteenth Annual Parade of Harmony" at 8 p.m. Oct. 22 at the University of New Mexico Concert Hall. Nationally known out-of-town quartets and local groups will appear in the program of old fashioned harmony. Sandia personnel participating in the program are R. E. Arvidson (2111), Richard Corn, Jr. (9225), L. A. Faw (2223), R. A. Harley (1541), C. E. Jackson (1515), B. W. Jolliffe (2122), L. J. Seligman (9213), and G. S. Wallace (4214). Tickets may be obtained at the box office or by contacting the members.

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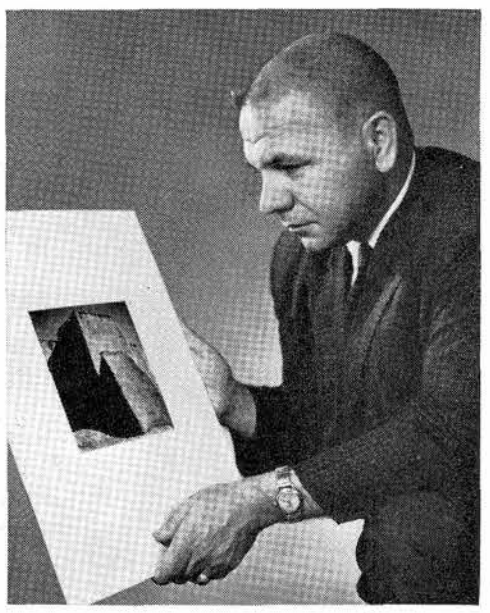
The children of Sandia Corporation employees are eligible to attend therapy classes sponsored by the Sandia Base Education Center. Classes will be held in Bldg. 339 and at the Sandia Day School Nursery, Bldg. 1851, for children experiencing either speech or hearing difficulty. Individual or group classes are offered. For further information call Mrs. Janice Whelan, speech pathologist, tel. 264-2996.



FOUR PHOTOGRAPHS by Tom Zudick (3462-5), part of a portfolio on Ranchos de Taos Church, were accepted by the Oakland (Calif.) Art Museum as part of its permanent collection. His photographs have been exhibited locally at Quivira Gallery, University of New Mexico Fine Arts Gallery, and Sandia Base and Fifth Army Special Services Arts and Crafts Centers.

The ANAF Service Club (Sandia Base) has become a chapter of the U. S. Chess Federation and will begin its first rated chess tournament on Tuesday evening, Nov. 1 at 6:30 p.m. The tournament will be a six-round Swiss, with one game played each Tuesday evening. Sandia employees are invited to participate in this tournament. All interested personnel are requested to call Chaplain Rogers, the Tournament Director, as soon as possible at 264-6611 or 264-3624.

VE Workshop Will Start October 17

The 23rd Value Engineering Workshop will be conducted at Sandia Laboratory Oct. 17-28, according to Elmer Devor, supervisor of Value Engineering and Cost Improvement Division 2563. Ken Sarason of the division will be workshop leader.

Persons interested in attending the session may call 264-5973 for additional information.

Fall Fashion Show Scheduled at Coronado Club Saturday Oct. 15

On Saturday, Oct. 15, the Sanado Club will present a Fall Fashion Show at the Coronado Club as the entertainment highlight for the dinner dance event. Menu for the evening will feature stuffed Cornish hen. Dancing to the Rhythm Masters will follow the fashion show.

Models for the evening will be Mrs. Ralph Wardlaw, Jr., Mrs. H. L. Crumley, Jr., and Mrs. J. A. Reuscher. Mrs. J. B. Ayers is fashion coordinator and Mrs. J. A. Anderson is commentator. Mrs. L. E. Mahuron will provide the fashion show music.

Admission for members is $2.50, guests $3. Tickets must be picked up by 9 p.m. Oct. 14.

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Social Hours

Tonight the Elaine Harris group will provide the happy music. The Coronado Club's big chuckwagon beef and shrimp buffet will be served. Cost to adults is $1.75, $1.50 for kids.

On Oct. 14, Tommy Kelly's combo will provide the music and the popular Coronado Club Mexican buffet will be featured.

On Oct. 21, the seafood buffet will highlight the menu and Don Lesman will be on the bandstand.

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Ski Club

First meeting of the Coronado Ski Club this season will be held Tuesday, Oct. 18, at 7:30 p.m. in the Coronado Club ballroom. Program for the year will be discussed.

Betty Furness Will Speak at Sanado Club Luncheon

Betty Furness, television and radio personality, will speak at a Sanado Woman's Club sherry luncheon Tuesday, Oct. 11, at 1:30 p.m. at the Coronado Club.

Currently, Miss Furness conducts a daily radio program, commenting on everything from Congress to cooking. Her lecture tours give her additional opportunity to comment on the fads and fashions of the day.

Mrs. H. F. Gustafson will introduce the speaker. Sherry hostesses are Mmes. D. E. Fjelseth, Joseph Feistamel, and E. D. Herrity. Door hostesses are Mrs. J. D. Rex and Mrs. J. A. McDowell.

Reservations should be made today with Mrs. E. E. Bylander, 3303 Tiley Drive NE.

Football

Tomorrow, a chartered bus will depart from the Coronado Club at 7 p.m. for the big game between the University of New Mexico Lobos and the University of Arizona Wildcats. Fare is 50c for the round trip.

Sandia's Safety Scoreboard

Sandia Laboratory:

18 DAYS

630,000 MAN HOURS

WITHOUT A

DISABLING INJURY

Livermore Laboratory:

113 DAYS

534,000 MAN HOURS

WITHOUT A

DISABLING INJURY