



UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON 25, D. C.


December 19, 1960

My dear Mr. Schwartz:

It is my distinct pleasure to send to you and to all members of the Sandia Corporation, on behalf of the Division of Military Application, our best wishes for a very Merry Christmas and a happy and successful New Year.

We are proud and appreciative of Sandia's great work of the past. We are looking forward to the continuance of our close relationship with you during 1961, and wish you every success and we do hope you, your staff members, and your families will have a most enjoyable holiday season.

Sincerely,

  
Alfred D. Starbird  
Major General, USA  
Director of Military Application

Mr. S. P. Schwartz, President  
Sandia Corporation  
Sandia Base  
Albuquerque, New Mexico

## Sandia Sends Unclassified Drawings To AEC Civilian Application Program

In addition to technical papers, Sandia Corporation also releases unclassified engineering drawings and specifications to the Atomic Energy Commission's Civilian Application Program. Eight sets of these drawings of Sandia developed devices have been made available to the public during 1960, according to a report issued by Technical Information Division 3421.

A descriptive listing of the items is published in *Engineering Materials List*, an AEC publication distributed to libraries and interested industrial organizations throughout the United States and

foreign countries.

Persons desiring copies of the drawings may order them for a fee from a Civilian Application Program reproduction contractor.

Sandia contributions and the developing organizations are as follows: Capacitive Manometer (2700), Star Trail Timer (7220), Transistorized Current-Controlled Oscillator (7220), .33 Antenna (1424); Krypton 85 Nuclear Cell (1322), Microbarograph System (Applications) (7250), and Hypersonic Wind Tunnel Pebble Bed Heater (7132).

# Dry Nevada Lake Bed Is Scene of Sandia's Field Operations at Tonopah Test Range

Dome-topped towers resembling silos are silhouetted against the sky. Jointed-girder structures stand lonely upon the valley floor. A large X-shaped concrete target stretches across a dry lake bed, and radar antennae dot the countryside.

Clouds of dust occasionally rise as vehicles carry the men of Sandia's Tonopah Test Range from one station to another.

This is the visitor's first impression of Tonopah Test Range.

Between the active "operations" periods of the Range, some 18 Sandians maintain the AEC's ballistics range in the northwest corner of the Las Vegas Bombing and Gunnery Range.

Tonopah Test Range (TTR) is so named because of the nearby mining town of Tonopah, Nev., which is about 208 miles northwest of Las Vegas.

To reach the Range from Tonopah one drives west and south 34 miles to Point Able, the gate house at the entrance to the unfenced Range, and another seven and one half miles to the headquarters and control building.

This building is one of a small cluster of structures enclosed by a security fence. It contains Sandia's office area and control consoles for high-altitude drops and rocket firings, in addition to photographic dark rooms, an electronics work-room, and a staff lunchroom.

TTR is primarily a ballistics range for low-level (hard-target) and high-altitude drops from aircraft. But some 207 rockets have been fired from its launch complex, located near the north border of the Range's 637 square miles.

The area of the Range is known as Cactus Flat, a valley flanked



"X" MARKS THE SPOT for hard-target drops non-reinforced concrete, one foot thick. Each bar at the Tonopah Test Range. The target consists of of the "X" is 750 feet long and 220 feet wide.

by the Cactus Mountains on the west and southwest, and the Kawich Mountains to the east and west.

The Range exists primarily for conducting AEC tests, but on a non-interference basis it has been made available to other government agencies or their contractors.

### Request Test Program

To initiate a test program at TTR, the customer (requestor—usually a member of 7100 or 5100) contacts a Field Project Engineer in the Field Testing Organization (7200) and a "Test Program Request" is published. In this request are listed all instrumentation requirements, the number of tests in the program, a schedule of these tests, cost figures, and other necessary data regarding the proposed Test Program.

Next a "Range Instrumentation Order" is placed. This order contains full details for a specific test of the entire test program. Upon receiving this order, TTR personnel prepare for the first test of the series (for example, which stations need to be manned to meet the requirements of the test).

The Range is seldom activated for a single test; instead, a variety of tests from a number of test programs will be run each day during the usual 10-day "operations" period of each month.

During operations the staff of the Range expands from its 18 "regulars" to between 40 and 50 men. The additional men come in from Sandia Laboratory and Salton Sea Test Base to help operate the tracking and telemetry

stations and the control consoles, and to fire the rockets.

### Typical Test

R. D. "Bob" Statler, supervisor of Sandia's Test Range Division (7212), outlined a typical test at the Range as follows: "The Range personnel arrive from Tonopah at 6 a.m. on the morning of a low-altitude, hard-target drop. Preparations for manning the ground instrumentation stations are immediately begun. These preparations include such things as gathering up the film magazines, magnetic tape, oscillograph paper, etc., to loading the recording instruments.

"By 6:30 the stations are manned and preparations begin for a system check of all stations at 7. When the system checks are com-

(Continued on Page Three)



AT THE HEADQUARTERS and control building at Tonopah are (left) R. D. Statler, supervisor of Test Range Division 7212, and W. H. Everhart, supervisor of Tonopah Test Range Operations Section. Telemetry antennas are on the platform by the building.

# Sandia Corporation LAB NEWS

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JANUARY 6, 1961

## ASQC to Hear 'What Is Quality?' Talk Monday, Jan. 9

"What Is Quality?" will be the featured topic during a dinner meeting for American Society for Quality Control members and guests Monday, Jan. 9, at the Sandia Base Officers Club.

Guest speaker will be Robert L. Storer, solid propulsion operation, Rocketdyne.

A social hour will be held at 6:30 p.m. followed by dinner at 7 and the regular meeting at 8 p.m. Reservations may be made through Edward Clamp (5511), ext. 46138, Charles Clark (1442), ext. 39149, or Dan D. Sheldon (2561), ext. 41159.

## Joint ASM-UNM Nuclear Materials Clinic Starts Jan. 10

The American Society for Metals will conduct its fourth educational clinic in the field of nuclear materials, reactors, and radiation effects this month in conjunction with the University of New Mexico.

The clinic will consist of four two-hour lectures held Tuesday evenings from 7-9 p.m. starting Jan. 10 at the UNM Student Union building theater.

Registration forms may be obtained from Sandia Laboratory bulletin boards, from L. L. Lowe (4232), or at the theater before the lectures.

The first speaker on Jan. 10 will be G. A. Whan of the University, who will discuss "Nuclear Engineering Fundamentals and Nomenclature."

On Jan. 17 a survey of reactor types will be made by P. Hammond, assistant division leader at Los Alamos Scientific Laboratory.

"Materials for Reactor Application" will be the subject of A. A. Heckes' (1323) talk on Jan. 24.

The last session, Jan. 31, will feature a discussion by Frank Hudson (5150) on the fundamentals of radiation effects.

## Carstens Will Teach Tech Writing At UNM This Spring

The spring schedule at the University of New Mexico will include a new three-hour course in technical writing to be taught by W. F. Carstens, supervisor of Publications Section 3423-1.

The course, to be called English 120, will be specifically directed to the writing needs of students in engineering and the sciences. Prerequisite for the course will be English 64 or the equivalent.

Classes will meet on Monday and Wednesday at 6:30.

## Revised Health Care Book and Policy Rider Issued by Equitable

Revised Health Care Plan booklets and policy riders have been sent to all employees enrolled in the plan. The rider is to be attached to employees' Health Care certificates.

Employees are reminded that it is their responsibility to notify Benefits Section 3122-1 or Employee Services Section 8212-2 at Livermore Lab when any changes occur affecting coverage of dependents. New dependents to be included under the plan and dependents who become ineligible for coverage must be reported to the organization within 31 days of such change.



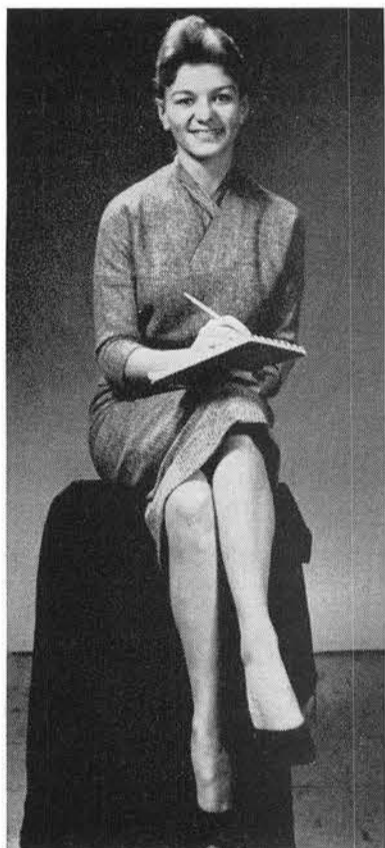
**Editorial Comment****A Year 'Round Program**

The last issue of the **Lab News** carried a heart-warming story. It told of the efforts of Sandians to make Christmas a little special for hundreds of less fortunate families in our community.

Those who actually made deliveries to families being helped reported moving experiences. Suddenly faces lighted up with hope and responded with joy, knowing that someone cared. A gift of a Christmas basket, food, toys or clothes restored their faith in human nature and gave them new courage to rise and try again.

In our day and our time, there are still many such unfortunates. Volunteer groups and state agencies carry on a year 'round program ministering to their needs but much more help is needed.

As the year progresses let us not forget those who have received help at Christmas. Don't wait to be asked, but give of your time, your talent and your treasure, through your church, your service club, social welfare agencies. Share the bounty of your good fortune and you will be repaid in many wonderful ways, by having helped someone in need.



Joyce Hemsing (3423)

**Take A Memo, Please**

**IN ORDER** to avoid accidents on or off the job, there must be constant awareness on the part of each individual of the hidden hazards associated with seemingly commonplace activities.

**Summer Employee Earns Scholarship**

Owen Williams, a senior at the University of New Mexico, has been named the 1960-61 recipient of the annual \$100 award made by the Nora Mitchell McDowell chapter of the United Daughters of the Confederacy.

Owen worked at Sandia in Division 7312 from December 1956 to February 1958, when he quit to attend school. He returned to Sandia in 1959 and 1960 to work in the same division as a temporary summer hire.

The prize is awarded for high scholastic records. Owen is majoring in electrical engineering.

**Wins Bowling Prize**

Ted Peterson (8114-2) was awarded a watch for bowling a 279 "scratch" game at a Livermore bowling alley. The watch had been offered as a prize for more than a year, but no one had qualified until Ted came along. He also bowled a high series of 687, missing the alley record by three pins.

**Science Class Demonstration**

Harold L. Brumfield (8115-2) demonstrated polyurethane foams, plastics, and synthetic rubber for the eighth grade science class at the Horner School in Irvington, Calif., last month. To show the materials' qualities to the students, he created a silicone sponge ball and filled a beaker with polyurethane foam. Hal has been a chemist in the Materials Application Division since he joined Livermore Laboratory in August 1958.

**Sandians Help Draft State Personnel Act**

Two Sandia men, working on an advisory committee with eight other governor-appointed persons, have assisted in drafting a Personnel Act to replace and repeal the State Personnel Act of 1959.

James A. Smith, supervisor of Staff Training and Education Division 3131, and Sherwood H. Peres (3133-1), were the Sandia Corporation employees selected to serve on the committee.

The report of the Advisory Committee to the State Personnel Board will be submitted to the State Legislature when it convenes Jan. 10.

A main feature of the recommendations is protection of State House workers from political hiring and firing, the object being to build up a corps of trained and efficient state employees.

The committee urged establishment of a State Personnel Board, comprised of three State department heads and four private citizens of divided political party affiliation. Duty of the board would be to recommend broad policies, review budget requests, administer the Personnel Act, serve as a court of appeals.

Another change proposed is mandatory filling of State job vacancies from a list of available applicants, who previously qualified by examination and met minimum job requirements. The committee also urged prohibiting use of official authority or influence in the solicitation of campaign contributions from workers.

**Presents Radiation Paper**

John Colp (5431-1) presented a technical paper at the annual meeting of the Hot Laboratories Division of the American Nuclear Society in San Francisco recently. Title of the paper was "Hot-Area Concept for Radiation Test Facilities."

Art Hasenkamp (5431-2) also attended the meeting of the American Nuclear Society.



**BASKETS** of Christmas fruit at Livermore Laboratory were grouped under the tree in the lobby of Bldg. 911 before distributing them to ill employees. Sharon Watson (8212-1), left, Livermore Laboratory



receptionist, added the finishing touches to the baskets. At right are the baskets distributed to Sandia Lab ill employees at Christmastime. Gail Konen (3122-2) helps display the fruit baskets.

**R. A. Quelle to Attend Conference On Aging in Washington Jan. 9**

When the White House Conference on Aging convenes in Washington, D. C., on Jan. 9, R. A. "Bert" Quelle (3122-1) will be among the 12 official delegates attending from New Mexico. He was appointed by Gov. John Burroughs last month.

Approximately 1400 delegates, representing the 50 states and national voluntary organizations, will meet to discuss problems of America's senior citizens—economic security, preservation of health, adequate housing and productive living.

As Bernalillo County Chairman of the WHCA, Bert has gathered statistics in 14 categories on needs of aging people, and these will be

included in New Mexico's report at the Conference. He is also serving on the State Survey Committee for the Conference, and is a consultant to the Governor's Committee.

Bert is chairman of the Retirement Committee of CASA (Co-ordinated Action for Senior Adults). CASA is a community endeavor to co-ordinate activities and services for senior adults in Albuquerque and Bernalillo County. As a member of this organization, Bert is often called upon to participate in forums, panels, meetings and seminars on problems of the aging.

At Sandia, Bert handles pre-retirement counseling as part of his duties as a Personnel staff member.

**Congratulations****Born to:**

Mr. and Mrs. W. L. O'Rourke (8165) a son, Charles Anthony, on Dec. 11.

Mr. and Mrs. A. R. Mandell (7161-1) a daughter, Leslie Ann, on Dec. 28.

Mr. and Mrs. Wayne Corbett (1431) a son, David Wayne, on Dec. 24.

Mr. and Mrs. Wayne Hancock (3465) a daughter, Kellie Anne, on Dec. 24.

**Sympathy**

To Otis Short (4251) for the death of his father Dec. 4 in Belen.

To L. L. Cole (4231) for the death of his mother on Dec. 19.

To Robert F. Carlton (4231) for the death of his mother on Dec. 21.

**Conners Elected**

Matt Conners (8231-3) was recently elected to serve a two-year term on the Alameda County board of governors for the United Crusade. The appointment was revealed at the ninth annual meeting of the Alameda County United Fund.

**Bass Derby Winner**

Champion fisherman at Livermore Laboratory is Bob Bohannon (8222-2) who hooked into a 10 and one half lb. striped bass to win the Sandia Bass Derby for the second time. A slightly smaller striper captured the title for him in an earlier derby this season.

**Gives Meteorology Talk**

R. F. Gentzler (7243-1) spoke recently at a meeting of the Albuquerque Chapter of the American Meteorological Society. Title of the talk was "Applications of Meteorology in Nuclear Reactor Technology."

**Lee Klaus Writes Articles for Model Railroad Magazine**

The "Railroad Model Craftsman," a national hobby magazine, features the writing of Lee Klaus (8115-2), Livermore Laboratory chemist, in the January 1961 issue. The four-page article describes the "Rio Grande and South Park Railroad," a model railroad assembly built to scale by the East Bay Model Engineers Society of Emeryville, Calif.

Lee also wrote a three-page article for the December 1960 issue of the magazine and a number of brief articles for earlier issues. The December article explains how to construct a narrow gauge model locomotive for \$6 as opposed to market models selling for \$100.

Lee is chairman of the board of directors for the Alameda County Railroad Society in Pleasanton and has been a model railroad hobbyist for 20 years.

**Rhodes Re-appointed**

Gil Rhodes, supervisor of the Safety Section at Livermore Laboratory, was recently appointed to his fourth consecutive term as a consultant in accident prevention to the State of California Board of Public Health.

Gil was also recently elected regional vice president of the Western Region for the Veterans of Safety, a non-profit public service organization.

**Hollingsworth Will Run**

Lee Hollingsworth, manager of Test Department of Livermore Laboratory, has accepted the nomination to run for a second term on the Valley Memorial Hospital Board of Directors. Three positions on the board will be filled during the February elections.

Lee has served three years on the nine-member board. The hospital is expected to be completed June 1, 1961.



**BUILDING 840** was unusual location for "swearing-in" ceremony for three Sandians recently elected to serve as Justices of the Peace. Taking oath of office from Notary Public Mary Lee Peckum (3122-1) were: (l to r) Henry Schroer (4232), elected in precinct 44; Jim Weber (5133), precinct 43; John Malpas (4252), precinct 40.

Sandia Corporation  
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## AEC Signs Contract for Sandia To Use Holloman Rocket Sled Track

Agreement has been reached by representatives of the Albuquerque Operations Office of the Atomic Energy Commission and the Air Force Missile Development Center under which Sandia Laboratory will use the 35,000-foot Holloman Air Force Base rocket sled track for Sandia research purposes.

Under the agreement, Sandia will use the track near Alamogordo for several runs during the next six months, beginning in about March.

Two sleds are now being designed by the Environmental Testing 7300 organization for use on the Holloman track. These will be used for two different test programs.

In addition, a third test program to determine rain erosion effects on materials is in the planning stages. A rain system to cover 5000 ft. of the Holloman track is being built. Sleds approaching velocities of Mach 2 will be thrust through a 6-in. per hour rain.

It is estimated that in two or three years, Sandia may be conducting 75 to 80 sled runs a year on the Holloman track.

Sandia runs that cannot be accommodated at Holloman will go to a 20,000-foot Air Force track at Edwards Air Force Base, Calif., under the agreement.

Sandberg and Serrell, architect-engineering firm of Pasadena, Calif., is being advised that contract options for further work on designing a proposed new 10,000-foot rocket sled track on Sandia Base will not be exercised by the AEC. The new track, estimated to cost about \$1,750,000, would have been used for Sandia Laboratory experiments.

Sandia operations at Alamogordo will be carried out under the direction of R. W. Male (7253), the Sandia supervisor stationed at Holloman. Employees from Albuquerque will travel to Alamogordo from time to time as needed to supplement the permanent crew.



THREE ROCKET LAUNCHERS are part of the launch complex at Tonopah Test Range. In the foreground are two NASA type launchers used by the Mach 5 and Supersonic Parachute Test Vehicles.

## Tonopah Test Range

(Continued from Page One)

pleted and the final adjustments made, a dummy run is conducted at 7:40. The line run and drop are made at 8 a.m., and by 8:15 cameras and other recording instrumentation are unloaded and preparations are begun for the next test."

### Rocket Firings

This also is the pattern for high-altitude drops, which are often conducted on the afternoon of the same day. With rocket firings the same pattern is followed, but in addition preparations are in progress at the launch-pad area. These include final checks of instrumentation aboard the (rocket) test vehicle. The booster rocket motor is readied and installed on the launcher. The final stage of the vehicle, containing the instrument package, is mated on the booster at the launcher before the final arming of the rocket. While the rocket is being armed, personnel either leave the area or gather in the nearby blockhouse awaiting countdown.

On an operations day, it is quite likely that the Range will be the scene of low-altitude, hard-target tests in the morning, high-altitude drops during mid-day, and rocket firings toward later afternoon. The Range crew first mans the stations for hard-target coverage, then occupies other stations for coverage of the high-altitude drops and rocket firings. Several stations are used in all types of tests and these are maintained throughout the operations day.

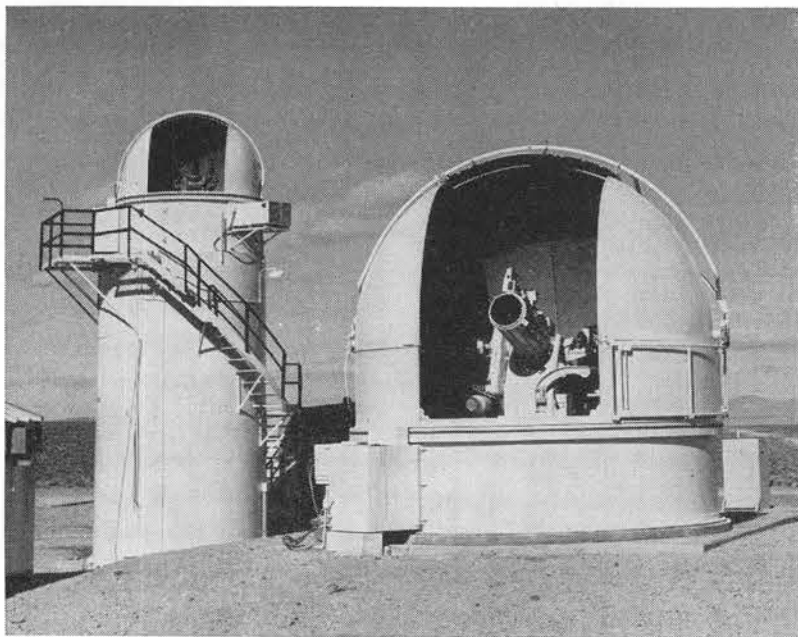
### Data Reduction

Data recorded during the tests are forwarded to Sandia Laboratory for data reduction as requested by the test project engineer. The data are then published and distributed to the customer.

There are 22 stations at TTR, housing such instrumentation as three Askanias, a T-33 Radar, two M-45's, four ME-16 (telescopes), 2 Metros, a SCR-584 Radar, an LA-24 (telescope), 3 MIDOTS, eight contraves, and three flight analyzers. The contraves and Askanias are cinetheodolites which show azimuth and elevation of the photographed vehicle on each frame of film. Cameras used include six 35mm Mitchell Hi-speed, one 35mm Full-frame Fastex, two 35mm Fastex WF7 (streak), one 35mm Half-Frame Fastex WF-5, nine Full-frame Warrick, and three 35mm photo-sonics 4C.

The electronic instrumentation includes Pulsed Radar and CW Phase Measuring systems for tracking, and a Tacoda for target acquisition.

The decision to create the Tonopah Test Range was announced



STATION FOUR at Tonopah Test Range includes this 15-foot, dome-topped tower (left) which houses an Askania Theodolite, the ground-level dome with a Sandia ME-16 tracking telescope.

by the AEC in 1956. The Range was put into operation in February 1957, and for two years was activated for a short period every month. In mid-1959 it was announced that TTR would be staffed on a permanent, full-time basis, and construction was begun to increase and expand the facilities.

This expansion is still in progress, with the following items scheduled for completion or installation during 1961: a new administration building; a new type Range timing system, "Digitimer"; three ME-16 tracking telescopes, two of which will be mounted in specially designed trailers for portable use; an MPS-25 Radar, a new type radar to be used for Range safety and electronic trajectory measurements; and "STARE," a new type electronic trajectory measuring system which will replace the MIDOT and also substitute for optical theodolites.

There have been a total of 26 low-level drops and 111 high-altitude drops since TTR was activated. Ballistic shapes or test vehicles carrying components are dropped by planes from Kirtland Air Force Base, from either the Air Force's 4925th Test Group (Atomic) or the Naval Air Special Weapons Facility. The types of planes used in the TTR drops include the F-100, F-101, F-104, B-47, B-52, B-58, A3J, A3D, A4D, F3H-2, and FJ4.

### Rocket Programs

The 207 rocket firings at TTR have included the following programs: the Mach 5 Test Vehicle, now completed after 30 firings, to aid in development of supersonic baro-fuzing devices; the Chaff Rocket, a continuing program, to determine wind velocity and direction in 100-300,000-foot altitudes;

and the Supersonic Parachute Test Vehicle (SPTV), with 16 firings and still in progress, to investigate the performance of parachute or other drag devices at Mach 1 to 2 at low altitudes.

## The Calendar

- Thursday, Jan. 12**  
Society for Nondestructive Testing  
Silver Spur Restaurant  
Technical meeting 8:15 p.m.  
Dinner meeting 7 p.m.  
Speaker: Bryant E. Justice, Inspection Superintendent, Convair, Ft. Worth  
Topic: "Nondestructive Inspection of Bonded and Brazed Honeycomb Structures."  
For reservations call  
Max Littleton (7511), ext. 46138  
\*\*\*
- Thursday, Jan. 12**  
American Welding Society  
Childers Machine and Welding Co.,  
605 Euclid Ave. NE  
Technical meeting 7:30 p.m. (Demonstration)  
Speaker: Albert J. Zavanut, Sales Metallurgist, Stooddy Co.  
Topic: "Hard-facing, electrode types, and semi-automatic methods."  
For reservations or more information call  
O. C. Leach, CH 7-0361 Ext. 421, ACF  
\*\*\*
- Monday, Jan. 16**  
Instrument Society of America  
Kirtland AFB  
Technical Meeting 1:30 p.m.  
Tour and talk: Telemetry reduction equipment of the computer facilities of the 49-25th Test Group, Atomic  
For reservations or more information call  
Jim McCutcheon (1322), ext. 37167 or  
Howard Zorn, Minneapolis-Honeywell,  
CH 7-0276  
Reservations should be made for benefit of Kirtland Security Force.  
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- Tuesday, Jan. 17**  
Society of Technical Writers and Publishers  
Reddy's Rendezvous  
Technical meeting 8 p.m.  
Program: Panel consisting of J. M. Stuckey, Chairman, R. M. Petrone, and J. T. Williams  
Topic: "The official policies and procedures of STWP from the viewpoint of recommending suitable changes."  
For reservations or more information call  
Don Emrick (2322), ext. 26137  
\*\*\*
- Thursday, Jan. 19**  
American Society for Metals  
Hoyt's Dinner Bell (Tentative)  
Technical meeting 8 p.m.  
Social Hour 6 p.m.  
Dinner meeting 7 p.m.  
Speaker: J. A. Burgard, Columbia-Geneva Steel, Division of U.S.S.C.  
Topic: "Application of Metallurgical Principles to Product and Design."  
For reservations or more information call  
Gerrit Hof (2564), ext. 46266  
\*\*\*
- This information compiled by the Council of Technical and Scientific Societies.



NEW CHAPTER of the American Society for Nondestructive Testing was born last month when the Albuquerque Chapter received its charter from national SNT headquarters. Holding the charter above are (l to r) D. W. Ballard (2564), chairman of the Albuquerque section; Dr. George H. Tenney (LASL), who spoke at the charter meeting; and J. L. Dusseau (ACF), new group vice chairman.



TOSSING 1960 to the winds is Cynthia Harris (3466-2). With just a few pages of the new 1961 calendar turned over, it is still appropriate to wish everyone "a happy and most prosperous New Year."



## Unique Tricycle Built by L. P. Baudoin Helps Marion Lantz Around Tech Area

Watch out for the "Yellow Peril!"

The "Yellow Peril" is a brightly colored large-wheeled tricycle which may be seen moving through Tech Area I. The pleased man at the pedals is Marion Lantz (4411-4) who, for the first time in three years, can move from one end of the area to the other under his own power.

The unique tricycle was put together by Marion's boss, L. P. Baudoin, supervisor of Design Definition Section A IV.

Marion began working in Sandia's machine shop in September 1948, moving down from Los Alamos where he had been in the model shops. Then three years ago a serious operation was necessary and he continues to have poor control over his legs.

"After my convalescence, the Corporation went out of its way to find me another job, even though I could move only slowly with the aid of two canes," Marion said. "A car had to meet me at one of the Tech Area Gates and take me to and from my work location."

"I first was assigned to a tool design group, but six weeks later when the section moved to the third floor of Bldg. 802, I was unable to remain with them for safety reasons," he continued.

Marion then was transferred to his present section. A year ago Louis Baudoin became his supervisor. "We had never met before," both explained.

"We're happy to utilize Marion's machine shop background," Louis said. "He can answer many of our questions about design before they even reach the drawing boards."

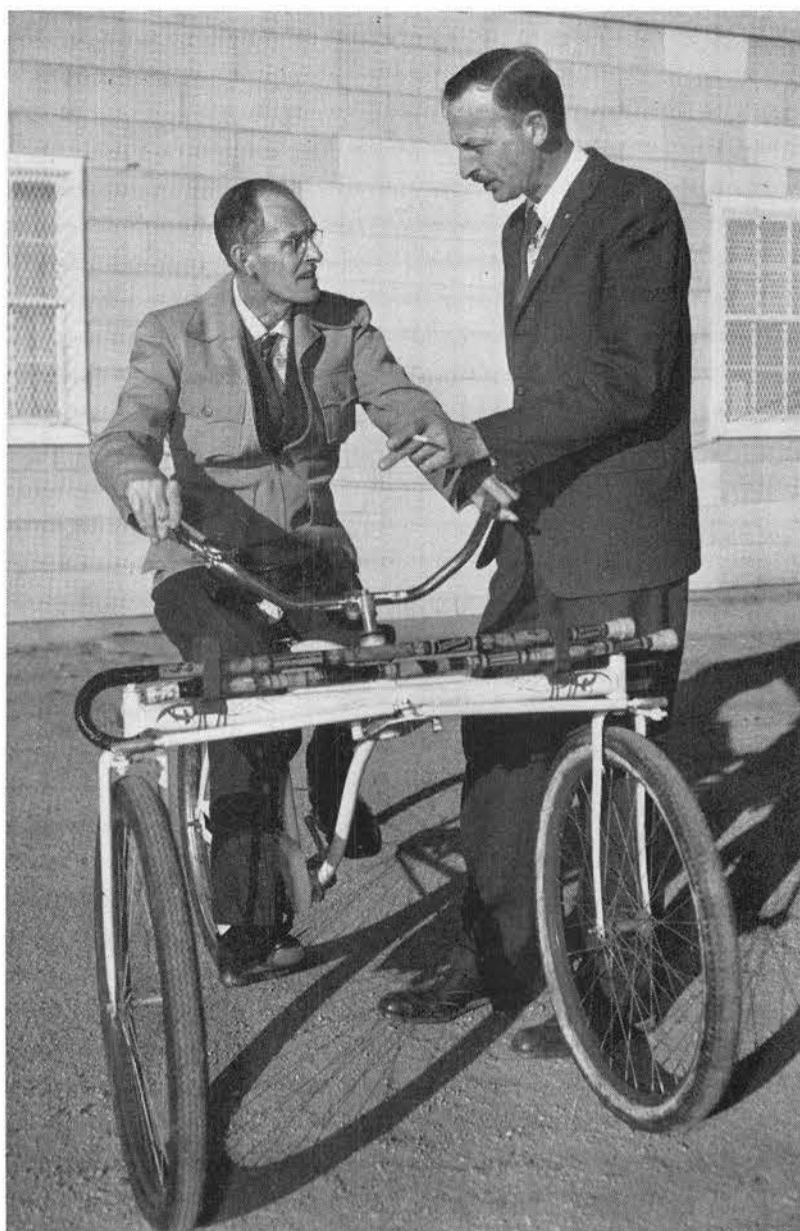
The tricycle was a spare time project of Louis'. With a mechanical background and 12 years experience in welding before coming to Sandia, there is always some project underway at the Baudoin home: go-carts, unicycles, even an all-steel sports car.

The tricycle was constructed from one of his son's old bicycles. The steering system is similar to that on an automobile — not unique, just more stable. There is a rack for Marion's canes. Even the Baudoin family dog got into the act: tufts of hair from his ear were used to paint the decorative "pin stripes."

Sandia's Safety Engineering Department and Medical Director gave their okay to the vehicle's use after a minor modification so the turning arc would not be so short.

"Marion liked it so well," Louis said, "that he wanted something similar for week-end use, so I'm building another one."

In fact, if there is any paralytic child who would have use for such a tricycle, Louis said he would be happy to help out. "They're not expensive to build, especially using junk bicycles for parts."



"YELLOW PERIL" tricycle provides transportation in the Tech Area for Marion Lantz, who can walk only with the aid of two canes. His supervisor L. P. Baudoin (4411-4), who constructed the trike, explains how he plans to add a basket for carrying purposes.



FRESH PRINT from microfilm containing environmental testing data is checked by Dick Corn (7185-3). IBM cards with the microfilms and additional information are filed in the drawers to the right for the later use of designers and others when needed.

## Environmental Test Data Handily Stored for Sandia Design Use

An environmental data bank, which provides a convenient method of storing results of various Sandia field tests, has been set up in Bldg. 836 in R. T. Finnell's Section 7185-3.

The bank answers such questions as "What is the maximum rainfall for a day in the world? How much does a destroyer pitch and roll in the North Atlantic? How much does a railroad car really bump? How hot is the sunshine in Death Valley? What is the air temperature over the equator at 5000 ft. altitude in July?" plus many more.

Purpose of the file is to keep Sandia Corporation environmental standard tests up to date and to record for the assistance of designers the effect of different environments upon various materials.

Mr. Finnell has several employees working on the data bank: two have experience in project work, two have shipboard and handling gear design backgrounds, while another has worked in Sandia's Test Laboratory. This group includes civil, mechanical and electrical engineers.

Their job is to compile the information from tests previously run here, missile flights and drop tests; military publications; sub-contractors; military service organizations such as Wright-Patterson AFB, the Army Transportation Corps, and White Sands Proving Ground; railroad companies and trucking lines, and the U. S. Weather Bureau.

The information is microfilmed and filed on IBM cards. At the present time there are nearly 1000 cards. A Thermofax reader printer, located in room 276, can make a print from the microfilm in a few seconds.

About one-third of the cards contain classified information.

"The information is for the use of any Sandia Corporation organization needing it, although it is intended primarily for designers," Mr. Finnell explained.

The data bank group offers consulting service as well as performing special study projects on request.

During a recent Shock and Vibration Symposium one of the main topics was retention of environmental data for future use. Apparently Sandia Corporation is the only known organization maintaining such a file.

## Table Tennis Tourney Starting; Women to Have Contest Also

Table tennis tournaments will be starting this month in all Sandia Laboratory general organizations. Singles and double winners from these tournaments will compete in the Laboratory tournament which will be played early in March.

Names of winners should be reported to Services and Benefits Division 3122, ext. 29157, by the last week in February.

A women's tennis tournament, will also be conducted in February. All those interested in competing are urged to give their names to Division 3122, ext. 29157. Deadline for entry is Jan. 20.

## Tax Forms Available

Income tax forms, both federal and state, are available in Bldg. 829, according to an announcement this week by Services and Benefits Division 3122. Any employee desiring any of the forms may pick them up from 3122.

## T. B. Cook Named Consultant for Nuclear Panel

T. B. Cook, manager of Nuclear Burst Physics Department 5110, has been appointed a consultant to the Nuclear Panel of the Scientific Advisory Board of the Air Force.

The SAB is comprised of 11 panels. The Nuclear Panel has nine members and 12 consultants. The SAB holds one annual meeting; however the panels meet as the need arises.

Mr. Cook has worked one year as chairman of a working group of the ad hoc committee on radiation effects. J. W. Easley, manager of Radiation Effects Department 5430, has also served on the ad hoc committee. Chairman of this committee is William Shockley, former Bell Telephone Laboratories' employee who received the Nobel Prize for development of the transistor.

## George Stone Authors Prize Winning Paper In IAS Competition

A technical paper by George Stone (7134) has been awarded first place in a national competition sponsored by the Institute of Aeronautical Sciences.

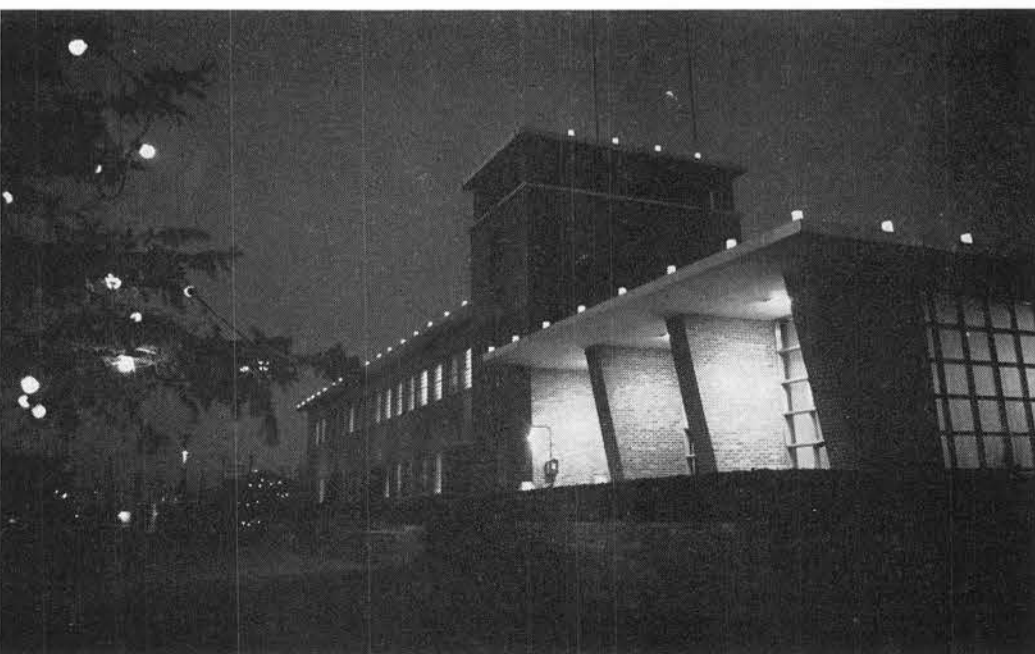
The paper, "The Response Characteristics of Simulated Pneumatic Missile Pressure Sensing Systems Subjected to Continuous-Impulse Shock-Type Inputs," won the 1960 Minta Martin National Award, Masters Division.

It was co-authored with David A. Pirie while Mr. Stone was a graduate student at Georgia Institute of Technology. The paper was first presented at the Southwestern Student Competition of the Institute of Aeronautical Sciences last April. It tied for first place in this contest.

Mr. Stone joined Sandia in July 1960 and has been employed in Engineering Aerodynamics Division since that time.



CLASSIFIED CHORDS, Livermore Laboratory choral group, presented a program of Christmas carols Dec. 23 before an audience of more than 250 people, including employee and Livermore residents. Backdrop for the program was the Livermore luminaria display which attracted hundreds of visitors during the Christmas holidays.



SANDIA LABORATORY'S Bldg. 800 contributed to the holiday season with these glowing luminarias and Christmas lights. Inside in the lobby of the building were additional decorations and an eight-ft. Christmas tree. Display was arranged by Services and Benefits Division 3122 and installed by organizations 4511, 4512, and 4575.



# Craig C. Hudson, Colloquium Chairman, Resigns; G. W. Anderson Assumes Duties

Duties of Colloquium Chairman for Sandia Laboratory have been taken over by George W. Anderson, Jr., supervisor of Applied Research Division 5132, succeeding Craig C. Hudson (5113), who, with Jay Todd (now at Los Alamos), organized the program of scientific meetings in July 1954.

Mr. Hudson resigned as chairman in order to be able to devote more time to research.

Although the Colloquium was started in 1954, primarily for staff members of the Research organization, speakers were obtained "as available" until 1957, when a more definite program was established.

The chairman has the responsibility of contacting the prospective speaker and making all arrangements for an appearance at the Colloquium.

## Committee Members

A Colloquium committee, comprised of G. A. Fowler (7000), C. F. Quate (5000), R. S. Claassen (5100), A. Y. Pope (7130), H. H. Patterson (7110), W. W. Bledsoe (ex-Sandian), W. B. Leslie (1312), and Don Rauber (3423), secretary, serves mainly as an advisory group on program or policy changes.

"Craig Hudson, by his own initiative, created and developed a series which plays an important role in our research effort," said Mr. Claassen, Director of Physical Research. "Through his own broad interests, he has arranged for speakers who have stimulated new ideas and interests in many of us."

Originally held in a large basement conference room in Bldg. 802, the programs were moved to the Sandia theater, Bldg. 815, when it was completed. This permitted attendance of 200-250. Some of the Colloquium programs are on a "ticket only" basis due to popularity of the speaker or security aspects.

## Seminars Start

In the Spring of 1959 Mr. Hudson set up the Research and Development Seminar, informal meetings with greater flexibility of subject matter. Meetings are conducted with seminar chairmen appointed in the fields of aerodynamics, mathematics, experimental physics, theoretical physics, materials, electronics, mechanics, and systems. Mr. Hudson has coordinated the schedules.

Colloquium talks have been published as Sandia Corporation Reprints as it was felt that some of the talks would be important reference material for either technical or historic interest. Requests for copies of the six talks published for external circulation have come from different parts of the United States and from Europe. Other SCR's, for internal

used only, are mostly of classified nature and are distributed on a limited basis to several Sandia offices, AEC-ALO, and LASL.

## Men of Stature

"I have attempted to obtain Colloquium speakers who are men of stature and experts in their fields, or perhaps people with bold ideas who can have some expectation of shedding new light on old problems," Mr. Hudson said. These speakers have been presented directly to the Sandia staff, rather than to management alone.

Highlights of the Colloquium program, through recent years, indicate how well this goal has been achieved.

The first speaker on July 1, 1954, was Henri Sach of Cornell University discussing "Internal Friction in Solids." He was followed later in the month by G. B. Kistiakowsky of Harvard University (more recently a scientific advisor to the President), who spoke on "Detonation Waves as a Tool in Research."

## Nobel Prize-Winner

A Nobel prize-winner who participated in the program was A. H. Compton, Washington University, whose discussion title was "Origin of the Military Atomic Energy Project."

Hans Bethe of Cornell University discussed "Nuclear Physics of Atomic Weapons" before a Colloquium audience which flowed into the hallways, and later returned to Sandia to speak before the Research Seminar.

Edward Teller spoke on "The Theory of Nuclear Forces" in July 1955.

"Principal Concepts of the Theory of Games of Strategy" was discussed by O. Morgenstern of Princeton University, however in two later visits his topics were based on security of the United States. One of these later talks became the foundation for a book he has written.

"Thermal Stability" was the subject of a talk by S. Chandrasekhar, noted astrophysicist from Yerkes Observatory (University of Chicago).

One of the most dynamic speakers was Col. George Keegan, Jr., who followed his Colloquium talk on "Conduct and Management of Soviet Air Research and Development" with a top secret briefing for Sandia's Small Staff.

## Intelligence Briefings

A talk by Col. Thomas W. Wolfe, Air Force intelligence, on "Current Estimates of the Soviet Military and Industrial Potential" was among intelligence briefings presented.

Two years ago the Colloquia purpose was further expanded to include a series of talks by six Navy officers or consultants on the naval threat to the U.S., the

Polaris System and similar topics. The Stephan Poszony and Henry Kissinger talks in the past year provided guidance in foreign affairs.

With regard to these changes Mr. Hudson remarked, "In these days, when science is playing an important role in national and international affairs, it is important that the staff of Sandia be well grounded in the non-technical background related to these affairs and in the state of science and technology which pertains to them."

In the future, questions pertaining to policies and Colloquium programs should be directed to Mr. Anderson at ext. 49164. Mr. Hudson will continue to answer questions pertaining to Colloquium and Seminar policies and events of the past.

Mr. Anderson has been with the Corporation since June 1953 and has been working on fundamental studies of ferro electric materials. At the University of Minnesota he received a Bachelor's degree in mathematics and his MS and PhD degrees in physics. His thesis was on cosmic rays.

## UNM Offering Course In Business Law for Secretaries Next Year

"Business Law for Secretaries" will be offered at the University of New Mexico on Thursday evenings from 7 to 9 beginning Jan. 26. The 16-week course will be taught by Louis B. Ogden, Albuquerque attorney.

Besides an introduction to nature and source of law, the course will include the courts and legal procedure, with emphasis on contracts, agencies, sales, partnerships, real and personal property, insurance and other items pertaining to business and personal legal matters.

The course, offered in cooperation with the National Secretaries Association, costs \$20. Registration will be held preceding the first night class in Room 219, Mitchell Hall.

## Welcome Newcomers

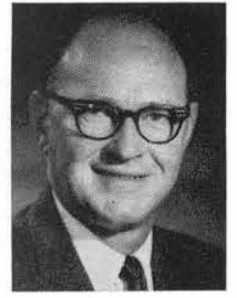
Dec. 19-30

|                                |      |
|--------------------------------|------|
| Albuquerque                    |      |
| *Bernadette Adkins             | 3126 |
| Donald L. Benoit               | 2322 |
| *Norma Bright                  | 3423 |
| Hyder B. Burruss               | 4541 |
| Lorraine G. Cook               | 3126 |
| *Mary A. Ferguson              | 3126 |
| I. Aileen George               | 3126 |
| Patricia C. Kampwirth          | 3461 |
| Nell B. Norton                 | 4413 |
| *Iris C. Stripling             | 3153 |
| Missouri                       |      |
| Albin K. Jacobson, Kansas City | 1313 |
| Texas                          |      |
| Larry K. McPhail               | 2563 |
| *Denotes rehired               |      |
| Returned from Leave            |      |
| Mary Lou Polaco                | 4333 |

# Service Awards



Robert A. Knapp  
2330  
Jan. 7, 1946



Charles Barncord  
8150  
Jan. 11, 1946

15  
YEAR  
PINS

10 Year Pins  
Jan. 7-20

## Supervisory Appointments

JAMES M. de MONTMOLLIN to supervisor of Design Section II, 7118-2, Project Division.



Jim has been an electrical engineer in Firing Systems Division since he came to Sandia more than seven years ago.

Prior to employment here he worked in electro-mechanical design for five years for Southern State Equipment Corporation in Hampton, Ga.

He holds a BS degree in electrical engineering from Georgia Institute of Technology. Jim is a member of Eta Kappa Nu, electrical engineering honorary, and is a registered professional engineer in New Mexico.

From 1942-45 he served in the Army and was recalled for two years' service during the Korean conflict. He is a member of the board of directors of the Coronado Club.

HAROLD C. MALMQUIST to supervisor of Maintenance Section A, 8222-1, Plant Maintenance Division, Livermore Laboratory.



Harold has worked as an electrician for the Plant Maintenance Division since he came to Livermore Laboratory in December 1958.

Before joining Sandia Harold worked as a civil service electrician for six years at nearby Camp Parks Air Force Base. While there he served as a section maintenance foreman for three years. Previously he was employed by electrical contractors in the Bay Area.

Harold received some of his electrical training in the Navy, where he served from 1942 to 1945.

Helen G. Besser 3220, Mark P. Forster 4221, Ernest G. Mares 4253, Albert T. Marrs 7231, Arthur F. Menapace 4542, Eldred C. Riggan 2323, William Schober 4542, Orval W. Wallen 8224, Herman Lopez 4575.

Frances J. Murar 8165, Edgar E. Pierce 4514, Lorenzo Rivera 4251, Charles E. Spriggs 3463, Donald P. Fifield 4581, Cecil C. Kinney 3463, Daniel D. Sheldon 2561.

William O. Short 4518, Conroe Wyman 4514, John M. Harper 4252, Harry P. Kovaschitz 2724, Ramon Lamberson 2642, James C. O'Neal 7321, Mary S. Williams 3126, Charles F. Bird 1100.

Wamon H. Cope 4622, D. D. Hesselbarth 2644, George V. Lemmon 7183, Audrey P. Sutton 4511, George Baldonado 4152, John M. Gustafson 2721, Richard F. Marquez 4221, Charles L. Stoner 2713.

Edward L. Strance 2642, Levi E. Baca 4511, Horace J. Brown 4361, John J. Dobias 1323, Elbert J. Quail 4514, Arthur L. McMullen 1424, Frank J. Ridlon 4513, Marcial Valdez 4152.

Rudolph Vinovich 2642, W. A. Whitfield 4412, Richard G. Carlisle 4513, H. A. Hinricks, Jr. 4513, Elbert C. Mathias 2724, John M. Wahlenmaier 3242, and Bill D. Yoder 2713.

## Women's Bowling Tournay Set at Club February 4

The annual Coronado Club women's bowling tournay will be held Feb. 4 with both singles and doubles events.

Deadline for entering the tournament is Jan. 22. Entry blanks may be obtained at the Club or from Tournament Secretary Diane Martin (5132).

Participants must be members of the Coronado Club and belong to the W.I.B.C.

## R. O. Murdoch to Read Paper at Symposium in Philadelphia Jan. 11

R. O. Murdoch (1432-4) will present a technical paper at the 7th Regional Symposium on Reliability and Quality Control in Electronics in Philadelphia, Pa., on Jan. 11.

Title of his paper is "The Achievement of Reliability in a Switch Program."

## Sandia Laboratory Basketball Standings

As of Dec. 16, 1960

| Team           | Won | Lost |
|----------------|-----|------|
| 13-14-7100-AEC | 4   | 0    |
| 24-25-26-2700  | 3   | 1    |
| 44-45-46-6000  | 3   | 1    |
| 41-42-4300     | 2   | 2    |
| 11-54-72-7500  | 2   | 1    |
| 3400-1         | 1   | 4    |
| 3400-11        | 1   | 4    |
| 7300           | 1   | 4    |

### CLASSIFIED ADVERTISING

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

**RULES**

1. Limit: 20 words
2. One ad per issue per person
3. Must be submitted in writing
4. Use home telephone numbers
5. For Sandia Corporation and AEC employees only
6. No commercial ads, please
7. Include name and organization.

**FOR SALE**

DINING ROOM set, blond; blond bedroom set w/bookcase, headboard, dresser, chest; Welbilt range. Catt, 1921 Truman NE, AM 8-8679.

BOY'S SKI pants, size 10, black, like new, \$5; ski boots, size 5 narrow \$3. Sherwin, 4624 Trumbull SE, AL 5-8866.

36" GAS range, \$30. McFall, 10428 Love Ave. NE, AX 8-1552.

3 BDR HOUSE, 1 1/4 baths, sprinklers, walled, h/w floors, close to Mark Twain school, \$15,990 total, \$995 down, 4% GI loan may be assumed. Gay, 1845 Georgia St. NE, AL 5-0402.

PIGEONS: 16 large Swiss Modanes, \$20; 11 La Hares, \$15; rollers, \$3 pr.; homers, \$3 pr. Some of these birds have won in fairs. O. A. King, Salton Sea or P. O. Box 4, Brawley, Calif.

**NEXT DEADLINE**

**FOR SHOPPING CENTER ADS**

**Friday Noon, Jan. 13**

GAS RANGE, \$20. Myers, 1420 Richmond NE, AL 6-2777.

'58 MOTORCYCLE Indian Lance with windshield and buddy seat, \$185. Krahling, 1036 Princeton NE, AM 8-8126.

'53 FORD 8 Victoria hardtop, R&H, \$300; 1954 Ford 6 Custom Line 2-dr, new tires, heater, \$325. Hayes, AL 5-3770.

USED 3000 lb. garage type hydraulic floor jack, \$20. Pliner, 6210 Bellamah NE, AL 6-1907.

ELECTRIC HEATER, Kenmore, \$5; Baco 40 x 60 mm telescope with tripod, \$20. Bortniak, AL 6-3177.

'58 ALL STATE motorcycle, 125cc, \$135; belt vibrator machine, \$20. Costello, AX 9-0563.

NECCHI SEWING machine, mahogany cabinet. Papineau, see after 5:30 p.m. or call AM 8-0174.

DACHSHUND PUPPIES, red, AKC registered, available March 15. Neel, 3617 Espejo NE, AX 9-3009.

'47 PLYMOUTH 4-dr. sedan, \$50. Seelbach, AX 9-5489.

O GAUGE electric locomotive; scale 0-6-0 switcher; 4-6-4 detail hudson; 4-8-2 mountain type; Santa Fe 3-unit diesel, Lionel. Blanchette, AX 8-1305.

17" TV, Crosley, mahogany case console; Selmer-Bundy flute. Nissen, AL 5-5657.

35mm CAMERA, Alpa model 6B w/f 1.8 Switar lens and 28mm wide angle automatic lens, filters, sunshade, camera case. Total cost \$610, sell for \$375. Goodwin, AL 6-2216.

'59 CHEVROLET, 6 cyl., radio, heater, very reasonable. McCoy, AX 8-0193 after 5:30 p.m.

3 BDR HOUSE, 1 1/4 baths, brick fireplace, rugs, drapes, double garage, extras, low down payment, \$18,900. Brown, 4017 Alta Monte NE, DI 4-6831.

LIONEL TRAINS, two complete sets, over and under track, mounted on 5 x 9 plywood, \$500 value for \$100. Harrison, AL 6-0216.

EXPANDO TRAILER, 15' x 37', take over \$109 per month payments, pay closing cost, it is yours. Kopel, DI 4-2706.

AKC DACHSHUND puppies, champion sire, excellent pedigree, terms agreeable. Brock, AX 9-3954.

**FOR RENT**

SPACIOUS 2 BDR apt., w/w carpet, central heating, air conditioned, ideal NE location, built-in range & oven. Sieger, AX 9-1283.

HOUSE, Tijeras Canyon, very charming, different, 2 bdr., kitchen w/fireplace, all modern conveniences, ideal for bachelors. Cramblitt, AX 9-6362.

4 BDR HOUSE, 1 1/4 baths, AC, attached garage, newly decorated, stove, refrigerator, drapes, \$110 per month, water paid. Burns, AM 8-1306 after 3 p.m. or weekends.

3 BDR HOME, attached garage, walled, patio, lawns, convenient to schools and shopping 10 min. from Base, range, automatic washer, \$95 month, water paid. Sander, 9011 Los Arboles Ave. NE, AX 9-5761.

2 BDR Apt., unfurnished, air conditioning, stove, refrigerator, washer rough-in, available Jan. 15. Milligan, CH 2-2959.

VACANT LOT, 54' x 100', suitable for house trailer, close to bases, 6711 1/2 Zuni Rd. SE. Denish, AL 6-1559.

**WANTED**

SMALL CHILD to care for in my home. Close to base. Riggins, AX 9-7778.

24" BICYCLE, boys. Johnson, AX 9-8894.

**FOR SALE AT LIVERMORE**

BICYCLE, girls 26", \$15; Western Holly gas range, \$50; large window cooler, \$25; round table, 2 leaves, \$15. Bachman, HI 7-1467.

FUR STOLE mink-dyed muskrat (brown), cost \$150, sell for \$60. Earthman, HI 7-6693 after 5 p.m.

3 BDR HOUSE, 1 1/2 baths, double garage, stove, refrigerator, disposal, dishwasher, freezer, carpeting, draperies, patio, landscaped, fenced. House, HI 7-5176.

**FOR RENT AT LIVERMORE**

2 BDR HOUSE in Martinez, fenced back yard, outdoor fireplace, barbecue, patio, Roto-tena TV antenna, available Jan. 15. Robinson, Ext. 2543.

**WANTED AT LIVERMORE**

CEMENT MIXER, used, electric. Hymer, HI 7-3971.



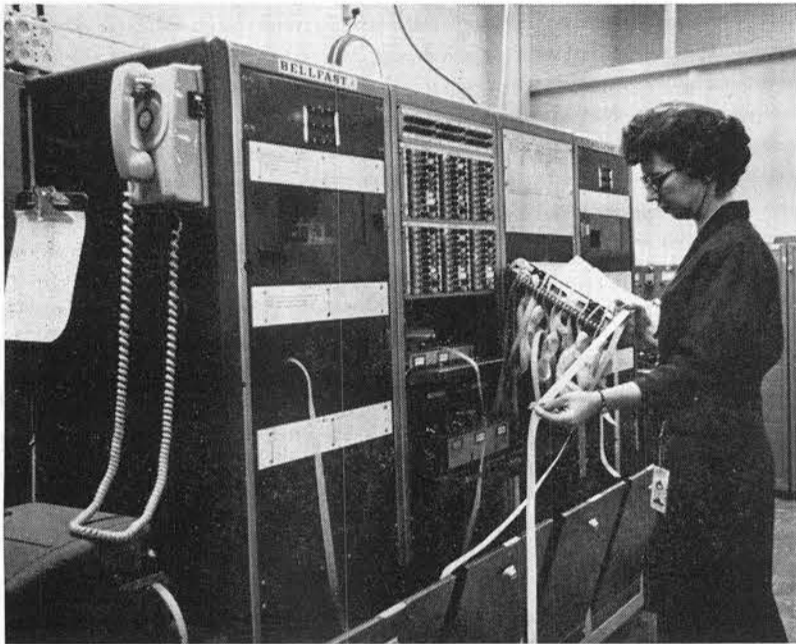
# Sandia Comcenters Performing Vital Communications Service



**LYDIA VIGIL**, Comcenter secretary, receives message over phone for transmission. This service is available by dialing ext. 23261 or 55143. Originator must provide for internal distribution of copies of message.



**COMCENTER BRANCH** in Bldg. 892 provides quick service for Sandia Manufacturing Engineering and Quality Control organizations. Here operator Reba Jo Griffiths checks tape prior to relay to the Comcenter in Bldg. 880 where it will be transmitted.



**BELLFAST SYSTEM** links Sandia with other organizations and agencies of the nuclear weapons program. Both classified and unclassified messages are sent via this semi-automatic relay system. Hattie Crooks checks incoming tape from Sandia's Bellfast console.



**BANK OF TELETYPE** machines inside the Sandia Lab Comcenter is shown here. Clyde Deeds (nearest camera) corresponds with ACAN operator while Diana Gonzales types message on Commercial TWX for transmission. In far background, Larue Wildgoose sorts incoming messages for internal Sandia distribution.

Discharging a primary responsibility in the United States nuclear weapons program, Sandia Corporation does business with hundreds of organizations and agencies throughout the world. Rapid, accurate and dependable communication is a necessity.

Providing the means and methods for this communication at Sandia Laboratory is the Comcenter in Rm. 184 of Bldg. 880. Hundreds of messages daily are transmitted and received by the several different communications systems which comprise the center.

J. H. "Jim" Porter, supervisor of Section 3461-3 which staffs the Comcenter, recalls that the center was established two years ago as a data collection medium for Sandia's Quality Assurance organization.

"Since that time," Jim says, "the center has had consolidated into it all of the communications services of Sandia Laboratory, except certain telephone services. Prior to June 1960, the Central Mailing Section handled commercial TWX service, Purchasing had an installation and other Sandia organizations had various communications services of their own."

Now the following systems are the responsibility of the Communication Center:

**Bellfast**, private line Teletype semi-automatic relay system, which handles both classified and unclassified communications with nuclear weapon production and inspection facilities.

**Commercial Teletype (TWX)**, a nationwide service of American Telephone and Telegraph Company.

**Western Union Toll Service** to all Western Union facilities in the nation.

**Army Command Administrative Network (ACAN)** which gives private line service through military switching centers.

**Western Union private line** to Milwaukee, Wisc., and Pinellas, Fla.

Over these lines flow the business messages of Sandia—engineering change orders, deviation requests, quality assurance procedures, quality assurance inspection agency reports, QA certificates of inspection, Livermore Laboratory engineering reports, purchasing correspondence, engineering correspondence and travel reservations plus hundreds of other miscellaneous messages.

In addition to Teletype systems, the Communication Center has administrative responsibility for telephone tie-line services such as the Livermore tie-line and Bendix—Kansas City tie-line.

"Having a centralized communications center has brought about efficiency and economy," Jim says, "as well as increased service to all Sandia organizations. We strive for maximum utilization of all services while at the

same time looking ahead and planning for future needs of the Corporation."

Branch facilities of the Communications Center include TWX service in Rm. 118 of Bldg. 800, Rm. 225 of Bldg. 892, Rm. 209 of Bldg. 836, and Rm. 353 of Bldg. 802.

### Livermore Comcenter

Livermore Laboratory commercial TWX and Bellfast communications are centrally provided in Bldg. 912 and are integrated with the Sandia Comcenter. The central Bellfast station is operated by the Mail and Communications Section 8232-4 and a "splinter" station is operated by the Product Information Processing Section 8161-1.

Communications Section supervisor H. J. Przystas reports that the Livermore Communications Center sends an average of 1530 messages (classified and unclassified) per month. Two operators regularly staff the Communications Center. An additional 2000 messages on the average are sent monthly by three operators in the Product Information Processing Section headed by Ferne White.

Western Union facilities at Livermore are operated by the Purchasing Division 8211 are used by Purchasing and the Personnel Division 8212 for contacting job applicant references, suppliers and for making travel reservations.

Both stations feed directly into the Sandia Bldg. 880 Comcenter.

At Livermore Laboratory messages for transmission are sent to the Message Center in Rm. 142, Bldg. 912. For information at Livermore dial ext. 2400.

Inside the controlled access

area of the Sandia Comcenter, the Teletype machines clatter continuously while the Bellfast console light flashes. The 14 operators of the Section move from machine to machine to receive or transmit messages. Outgoing messages are first transcribed on paper tape which makes the actual transmission a semi-automatic process.

### QA Reports

Quality Assurance Inspection Agency reports come in tape form over the Bellfast system. This tape is placed in a converter which produces punched IBM cards ready for input into Sandia's 705 computer.

"We are geared for this kind of service," Jim says. "Any Sandia Lab organization that has any Teletype communications problems or needs may bring them to our attention and we will try to work them out."

Most Sandia messages for Comcenter handling are prepared on Form SC-1811A and sent by messenger or through company mail to Rm. 184, Bldg. 880. "However, we can accept unclassified messages over the telephone," Jim says. "Just dial ext. 23261 or 55143. Use these numbers also if you have questions about classified transmissions, forms, distribution, etc."

All incoming messages are delivered to the Sandia addressee by Comcenter messenger, however, the originator of outgoing messages is responsible for internal distribution of copies.

"The thing to remember," Jim says, "is to properly address all outgoing messages. We will handle it from there."



**TAPE TO CARD CONVERSION** is performed in the Comcenter by this machine operated here by Glenna Moseley. Cards may be fed directly into 705 computer. This service is provided primarily for Sandia Corporation's Quality Assurance organization.



**NERVE CENTER** at Livermore Laboratory is the busy message center where an average of 1530 messages are sent each month on military, commercial, and special Bellfast TWX machines. Operating the machines, from left, are Betty Barnhouse, Gabriel Gutierrez, Lorraine Terrill (all 8232-4).

## Sandia's Safety Record

**Sandia Laboratory HAS WORKED 570,000 MAN HOURS OR 19 DAYS WITHOUT A DISABLING INJURY**

**Livermore Laboratory HAS WORKED 4,239,000 MAN HOURS OR 1783 DAYS WITHOUT A DISABLING INJURY**