SANDIA LAB NEWS

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SYMBOL OF AUTHORITY is cane held by Abie Jojola (right), lieutenant governor of Isleta Pueblo. With him are Remijo Jojola, governor of the Pueblo, and Abie's wife, Margaret.

Isleta Lieutenant Governor Cane Held by Juan B. Jojola

A well-worn wooden cane with a brass top is Juan B. "Abie" Jojola's proudest possession.

Abie, a precision machinist in the Branch Shop Section (2152-3), was presented with the cane New Year's Day on the occasion of his appointment as Lieutenant Governor of Isleta Pueblo.

The cane, or "vara" as it is called by the Isletas, is one of several presented to the pueblo officials on the occasion of their election or appointment to office. They represent the pueblo "badge of authority," Abie says.

Preparation for the election began Dec. 1 when the Isleta people nominated their candidates for governor. The three candidates with the most nominations and the incumbent governor were then voted upon, with the candidate with the most votes elected governor.

On New Year's Day, the new governor, Remijo Jojola (no close relation to Abie) was presented with two canes by the outgoing governor. One of these canes was given to the Pueblo by the king of Spain in 1620. The other, bearing the inscription on its silver head, "A. Lincoln a Isleta, 1863," was presented to the Isletas by the Civil War president "in honor of long peaceful years between his people and our people."

As his first duty, the new governor appointed two lieutenant governors who would, in case of his sickness or death, "care for his community, his people and the governor's business."

Abie, whose name in Tanoan, the language of the Isletas, means White Eagle, was one chosen for the coveted position. Origin of his cane, also quite old, is lost to historians.

The lieutenant governorship is not the first position Abie has held in the pueblo. He served four terms as pueblo judge.

A white stucco house in the pueblo, much older than the Lincoln cane, is where Abie, his wife Margaret and their three children live. The walls of the house are made of stout adobe bricks three feet thick through which no sound penetrates.

Abie was employed at Sandia in December 1950, and has more than 20 years experience as a machinist and a tool and die maker. He has worked in aircraft factories and as a silversmith for an Indian crafts shop in Albuquerque.

L. J. Paddison Speaks To Florida IRE Group

A talk on Sandia Corporation's Quality Assurance program was presented recently by L. J. Paddison (5500) at a meeting of the Florida West Coast Section of the IRE's Professional Group on Reliability and Quality Control.

The meeting was held in St. Petersburg.

Mr. Paddison is vice chairman of the IRE's National Administrative Committee of the PGRQC.

Tech Council To Set Up Student Counseling Aids

The New Mexico Council of Scientific and Technical Societies will hold its final meeting Feb. 3 to establish a guidance and counseling service for high school students interested in science.

The Council's Education Guidance Committee, headed by L. E. Bothell (1613), will present its program to send qualified speakers in various scientific and engineering fields to high schools outside the Albuquerque area.

"We plan to concentrate on the outlying areas where students are less acquainted with industries employing scientists and engineers," Mr. Bothell said. Speakers will be sent at the schools' requests to review opportunities in the general field of the physical sciences, as well as to discuss the merits of their own occupations.

The Council meeting will begin at 7:30 p. m. at the warehouse building at the University of New Mexico.

UNM Community College Spring Registration Feb. 7-8

Registration will be held Feb. 7 and 8 with classes starting the week of Feb. 10 for spring semester of the University of New Mexico Community College.

The Educational Aids Program offered by Sandia Corporation will allow many employees to receive tuition refunds and in some cases limited time off work for completion of job-related courses. Employees planning to enroll for classes this spring should make application on SC Form 750-A (8-57), available from Division 3123, ext. 45157, before registering at the university.

During fall term 514 Sandia employees enrolled in college level courses under the Corporation's Educational Aids Program. Approximately half of students were taking graduate work.

Complete information on the class schedules is available from Staff Training and Education Division in Bldg. 300. Among the credit courses offered are the following of interest to Sandia Corporation employees.

Business Administration

Business Law, Applied Business Statistics, Security Analysis, Seminar in Marketing, Seminar in Industrial Management.

Accounting

Principles of Accounting 5A and 6B, Principles of Accounting Lab, Intermediate Accounting, Income Tax Accounting.

Economics

Introduction to Economics, Comparative Economic Systems, Business Cycles, Principles of Foreign Trade, Social Control of Business.

Civil Engineering

Applied Mechanics (Statics), Strength of Materials 102A and 102B, Open Channel Flow, Advanced Indeterminate Structures.

Electrical Engineering

Fundamentals of Electrical Circuits 52A and 52B, Fundamentals of Electric Circuits Laboratory, Electronics I, Electronics I Lab, Alternating Current Machinery, Seminar, Communication Theory, Microwave Techniques, Digital Computers, Seminar in Systems Engineering.

Mechanical Engineering

Dynamics 106A and 106B, Heat Transfer, Gas Dynamics.

Mathematics

Intermediate Algebra 2C, 2D, and 2E, College Algebra 15J, 15K, and 15L, Plane Trigonometry 16J and 16K, Calculus and Analytical Geometry 50E, 50F, 51F, 51G, and 52G, Mathematical Probability, Advanced Calculus, Operational Methods, Applied Advanced Calculus 148B and 148C, Theory of Matrices, Advanced Ordinary Differential Equations, Advanced Complex Variable.

Physics

General Physics 52A and 52B, General Physics Laboratory 52LO and 52 LP, Heat Laboratory, Methods of Theoretical Physics, Contemporary Physics, Quantum Mechanics, Nuclear Physics.

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Persons interested in enrolling in an evening class of Fundamentals of Electrical Circuits are requested to contact W. H. Bailey (3123) at Ext. 45157. This is a basic electrical engineering course now offered only at 8 a.m. If enough persons desire the course to be offered in the evening, the University will schedule it.

Youthful Staff Member Works in Programming for Electronic Computer

Indicative of the increasing responsibility being given young people in industry is the case of Mary Ellen Sanchez, recently promoted Technical Staff Member in Full-Scale Effects Division (5111).

Mary Ellen came to work at Sandia Corporation in August 1955—two months before she reached the age of 21—as a data reduction clerk in Model Studies Division. Her work now is mainly programming for electronic computers.

Mary Ellen Sanchez
—Numbers, Figures, Calculations—

A native of Magdalena, historic mining town in the Cibola Forest of Southwest New Mexico, she attended elementary school there then studied at Loretto Academy in El Paso. Mary Ellen entered Loretto Heights College in Denver with the intention of becoming a medical technician, but as she explains "by the end of my freshman year I knew I didn't like chemistry."

Nevertheless, she continued through college and received a Bachelor's degree in Mathematics in 1955, with a minor in Physics.

While with Sandia Mary Ellen has received additional training: an IBM course at Kirtland AFB and last winter an extensive Remington-Rand 1103 course in Minneapolis.

At home there's nothing serious about this petite brunette's activities. Dancing, sewing and oil painting offer her variety.

TO ALL SANDIA CORPORATION EMPLOYEES:

In reviewing the Corporation's safety record for 1957, I find that the injury rates were the lowest in our history.

During 1957 we received the AEC Award of Honor and the National Safety Council Award of Honor for outstanding safety performance. While these awards represent an accomplishment of which each of us should be very proud, they represent a still greater achievement in terms of preservation of life and limb and prevention of suffering.

"Safety First" is not merely a slogan with Sandia Corporation, it is a Corporation policy. Bearing this in mind and continuing our combined efforts during 1958 and the years to come, we can not only maintain but surpass the outstanding record of 1957.

Sincerely yours,

Jwmrae

LETTER to employees from James W. McRae, President of Sandia Corporation, points up Sandia's best safety record in history, a record of which we can be proud. **(See Editorial, Page 2.)**

New Materials And Standards Lab Is Planned

Funds amounting to $1,642,000 have been appropriated for the construction of a new building in the main laboratory technical area. The building will be used by the Materials Standards (1620) and Physical and Electrical Standards (1650) Departments.

The building, of reinforced concrete frame construction, will contain 63,000 square feet of floor space.

When completed, the building will consolidate the 1620 and 1650 organizations, providing each department with additional laboratory and office space.

Space vacated by the two departments in Bldg. 860 will be used for increased environmental testing areas for the Test Laboratory Department 1610 which now occupies a portion of Bldg. 860.

Construction work on the new building is expected to be completed by summer of 1959.

SANDIA LAB NEWS

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1957 Best Safety Year

At the beginning of 1957, the safety record of .81 disabling injuries and 72 days lost or charged for permanent partial disability per million employee-hours worked in 1951 was the lowest in the history of Sandia Corporation. This record was surpassed during 1957 when the final count showed 0.71 disabling injuries and 5 days lost per million employee-hours.

These figures disclose that the disabling injury frequency rate for Sandia Corporation during 1957 was 91% below the national average of industries in the same category as the Corporation, and the severity rate over 99% lower.

Compared with its own record during 1956, the Corporation's frequency and severity rates during 1957 were 71% and 99% lower, respectively.

The very favorable showing of the Corporation's injury rates during 1957 as compared with 1956 does not indicate that the 1956 record was a poor one; far from it. The disabling injury frequency and severity rates were sufficiently below the national average to earn an Award of Merit from the National Safety Council for the Corporation's 1956 performance.

To date, since 1950, the Corporation has been awarded seven National Safety Council Awards of Honor and two AEC Awards of Honor, the highest recognition for outstanding safety performances conferred by those organizations.

Prominent contributing factors to this achievement have been the increased safety efforts put forth by supervisory and nonsupervisory employees, together with the prompt and efficient cooperation of organizations functional for the provision and maintenance of safe working conditions as well as the prompt correction of unsafe conditions when reported to them.

A. B. Metzger
Safety Director

Annual Symphony Ball Is Planned for Feb. 8 At the Coronado Club

The sixth annual Albuquerque Civic Symphony Ball will be held at the Coronado Club Feb. 8 with Paul Muench and his orchestra playing dance music from 9 to 1.

"Las Donitas de la Sinfonia," a group of young ladies interested in cultural and community development in Albuquerque will be introduced at the ball. Given each year, the ball is to aid in supporting the orchestra, which is now in its 26th season.

SYMPHONY BALL arrangements are discussed by Mrs. John H. Findlay (left) and Mrs. Kimball Prince. Ball is Feb. 8.

Active in arrangements for the annual event is Kimball Prince, (6000). Mr. Prince is on the board of directors of the symphony and is a member of the Ball Committee.

In charge of ticket sales for the ball on Sandia Base is Mrs. John H. Findlay, whose husband is manager of the Electronic Component Development Department (1450). Co-chairman of the Albuquerque city ticket committee is Mrs. Howard T. Stump, Jr. Mr. Stump, who is supervisor of the Health Services Division (3164), is a board member and treasurer of the Symphony association.

Khaki Bound

Reporting for two years Army duty at Fort Belvoir, Va., this week was Norman J. Pokorny (2532), on leave from Sandia Corporation. Norm visited his family in Clutier, Iowa, before traveling to Virginia.

Playtime

Are you impervious to stage fright? The newly reorganized Sandia Players are looking for actors and actresses for their forthcoming production of "Petticoat Fever," to be directed by Victor Izay.

The drama group meets every Monday at 7:30 p.m. in the old base chapel, which has been redecorated for theatrical purposes with a stage at one end and a seating capacity of 400. Civilian or military personnel at Sandia, Kirtland and Manzano are invited to attend meetings and participate in the Players' activities.

For information contact Bob Neiman (5150) or Mrs. Neiman at Base Ext. 40172.

Bride Feted

Members of organization 4135 and 4131-4 will honor Shelby Jester (4135) at a bridal shower tonight at La Hacienda dining rooms.

Service Completed

Completion of a year and a half of military service was marked with Stewart Bliss' return to his job at Sandia Corporation this month.

Stewart is a staff member in Engineering and Operations Division (1411) and has been with Sandia since June 1955. While a lieutenant he was stationed at Headquarters, U. S. Air Force Security Service in San Antonio, Tex.

Surrounded

Nick Montoya (7423) was the target for a surprise birthday party on Jan. 15. The party-givers were his co-workers, 23 girls, no less.

New Home

Mr. and Mrs. Elmer Roisum have bought a home at 1216 Truman SE and expect to move in soon. Elmer is a staff assistant in 2711.

The Ken Bennetts (8113-1) have moved into their new home at 898 Pestana Way in Livermore.

Visitor

Big doings at the Floyd Shaw home (2711). Son Stewart is on home leave from the Air Force between transfer from Ardmore, Okla., to Newfoundland.

Sandianotes . . .

Five Years Night, Weekend Work Put In by Frank Keene to Get BS Degree

Modern Adventure

Dave Karthauser (5126) and his family figure they ran the gamut of weather conditions during a trip to Texas.

Near Clines Corner heater trouble caused a car breakdown. Even after repairs the heater couldn't be turned off — nice in chilly New Mexico but uncomfortable in 60 degree Texas. Then it began to rain and Dave had to use chains to navigate rural dirt roads.

On the return trip the Karthausers hit a heavy snow near Fort Sumner and had to stay there overnight. Next morning one lane of the highway was cleared, but it was for the wrong direction of traffic, resulting in much backing up and waiting for oncoming traffic.

Social Affair

The seventh annual dinner dance of the Metal Trades Union will be held tomorrow evening at the Coronado Club.

Dinner will start at 7:30 p.m. with dancing to the music of Sol Chavez (2412) and his band lasting until 1 a.m. Ben Russo (5513) will be master of ceremonies.

Tickets may be obtained from members of the union.

Sick List

Recuperating at home following a recent operation is Sara Ortega (7225).

Wishes for a speedy recovery are extended to Jim Galbreath (3152), who is convalescing at home following a recent operation.

Also on the sick list is Cecile McIntosh (8132-4).

Department 5240 hopes for Bertha Merrill's quick return.

Convalescing from a recent illness is Dorothy Evans (2711).

The 3100 organization sends wishes for a speedy recovery to Dr. S. P. Bliss (3160), who is hospitalized.

Wayne Grimshaw (8114-1) underwent surgery early this month at Beloit, Wis., his home town. He's due back at Livermore in about a month.

Welcome Visitor

Joan Wolowicz, daughter of Mr. and Mrs. Chester S. Wolowicz (8114), visited her parents in their new home in Livermore for the first time recently. Joan is attending college in Cincinnati, Ohio.

To Appear in Parade

A photo of Paul Rowe and the Aerodynamics Department's portable wind tunnel will appear in the Jan. 26 issue of Parade magazine in the Albuquerque Journal.

The photo shows Paul demonstrating the wind tunnel to a group of high school students in Albuquerque. The article deals with career guidance and counseling in Albuquerque schools.

New Heiress

Walter (5253) and Linnie Hyde (formerly of 7423) started the new year with an addition to their household — little Beverly Gail. The women in Division 7423 gave a shower for Linnie recently.

Cold Wait

George Byrne (5126) and Dave Overmier (5224) report excellent results from their recent duck hunt in the vicinity of Truth or Consequences. Each bagged the limit of five ducks.

Many More

"Woody" Bledsoe (5120) and his wife will observe their 14th wedding anniversary on Jan. 29.

Wedding Congratulations

Gloria Salas (AEC-ALO) and Fernandez "Sonny" Sanchez (2461-2) were married last Saturday at Our Lady of Belen Church in Belen, N. M. Sonny has been with Sandia Corporation since last July.

Welcome Back

Organization 2711 welcomes back Clarence Canady, after a recent illness.

Frank Keene should receive a certificate for endurance as well as a college degree.

Actually, tomorrow he will receive a Bachelor of Science degree in Business Administration at the College of St. Joseph's. This represents five years of night-time and week-end study, and homework is especially difficult with three children underfoot.

Frank Keene

Frank maintains, "My wife made it all possible."

After a breather of a few months Frank plans to start studying next fall toward a Master's degree.

He began work for Sandia Corporation in April 1953 upon discharge from the Navy. He now works in Release Division 7423.

Serviceman Returns

Back on the job as a helper in 2152 is Theodore Stranczek, who has been on military leave of absence. He was in the Air Force from July 1956 until his discharge last month. His pilot training was at Lackland AFB, Tex., Bainbridge AFB, Ga., and Bryan AFB, Tex.

Congratulations

Born to:

Mr. and Mrs. F. J. Casey (7412) a son, Thomas Raymond, on Jan. 5.

Mr. and Mrs. Richard Bassett (2532) a daughter, Cheryl Rose, on Jan. 3.

Mr. and Mrs. Jim Deakin (7241) a son, James A., III, on Jan. 8.

Mr. and Mrs. Raymond Rychnovsky (2533-1) a daughter, Dawn Marie, on Jan. 10.

Mr. and Mrs. Marvin Bauder (5241-1) a son, Gary Ross, on Jan. 9.

Mr. and Mrs. Frederick Snyder (2131-3) a daughter, Deborah Ann, on Jan. 2.

Mr. and Mrs. Lawrence Williams (2131-2) a son on Jan. 13.

Mr. and Mrs. Jake Gonzales (2154-1) a son, Donald Lee, on Jan. 4.

Mr. and Mrs. Thomas R. Bates (1453) a son, James Thomas, on Jan. 4.

Mr. and Mrs. John Northrup (1451) a son, John Brion, on Jan. 10.

Mr. and Mrs. Almon Fackrell (7412-3) a daughter on Jan. 17.

Sympathy

To John W. Hinson (2121-3) for the recent death of his parents in Tulsa, Okla.

To Johnny J. Atencio (2121-4) for the reecnt death of his brother in a plane crash in California.

To M. Dwayne Bennett (5141-1) for the death of his father at Pecos, Tex., on Jan. 4.

To Edith Jolly (5531) for the death of her mother in Indiana on Jan. 10.

To Donna Martin (5241-1) for the death of her mother on Jan. 5.

To Charles V. Ladig (2152-4) for the death of his mother-in-law in Ohio on Jan. 5.

To Mildred Johnson (4135) for the death of her father in California on Jan. 15.

To Roy Adams (8114-1) for the death of his mother in Spencer, Wis., on Jan. 5.

Dorothy Reinertsen and J. W. Pinkerton
—News Items Plus Component Testing—

Speaking of Reporters . . .

Dorothy Reinertsen Has Reported For Sandia Lab News Six Years

This is another article telling of the volunteer reporters who contribute to the Sandia Lab News.

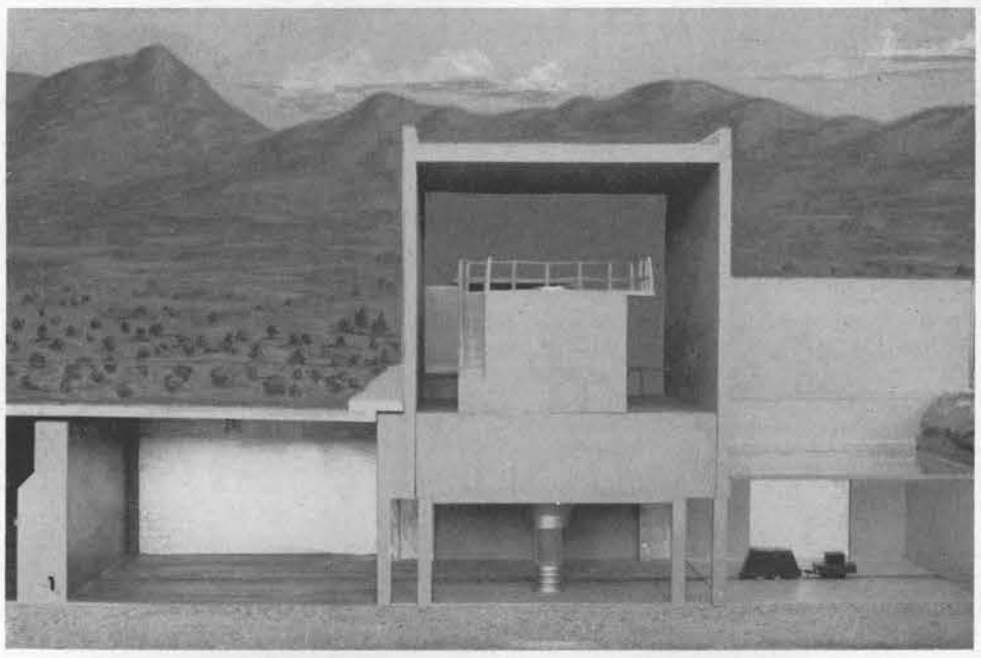
Women inspectors of electrical components were few and far between when Dorothy Reinertsen began work for Sandia Corporation. Volunteer reporters for the **Sandia Lab News** were also scarce when she began that activity.

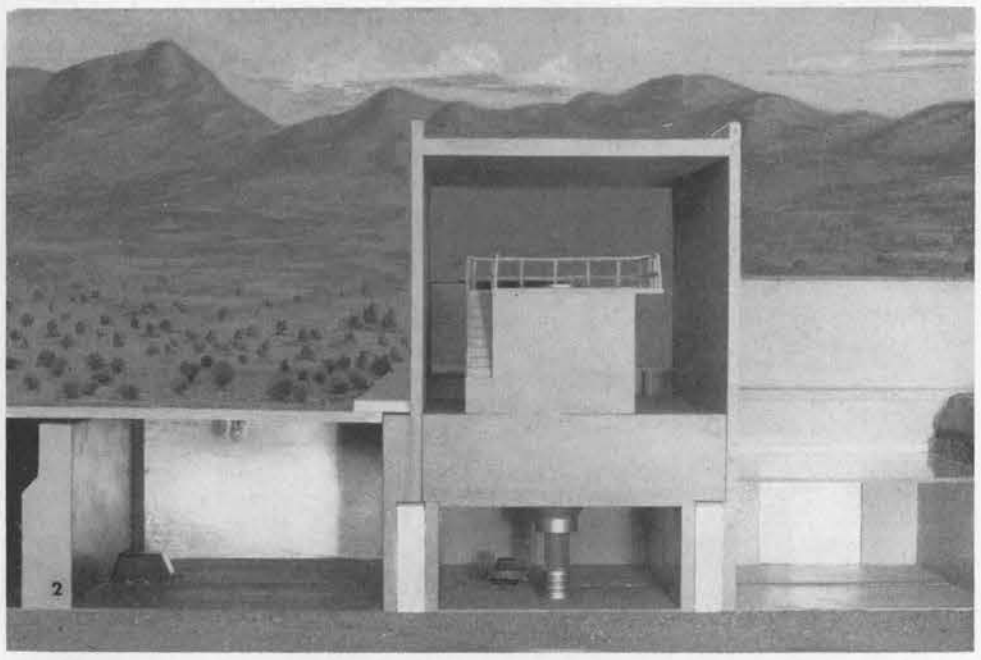
Seven years ago Dorothy was the first woman cleared for work in Electrical Inspection Division. She has remained in 2721-3 the entire time.

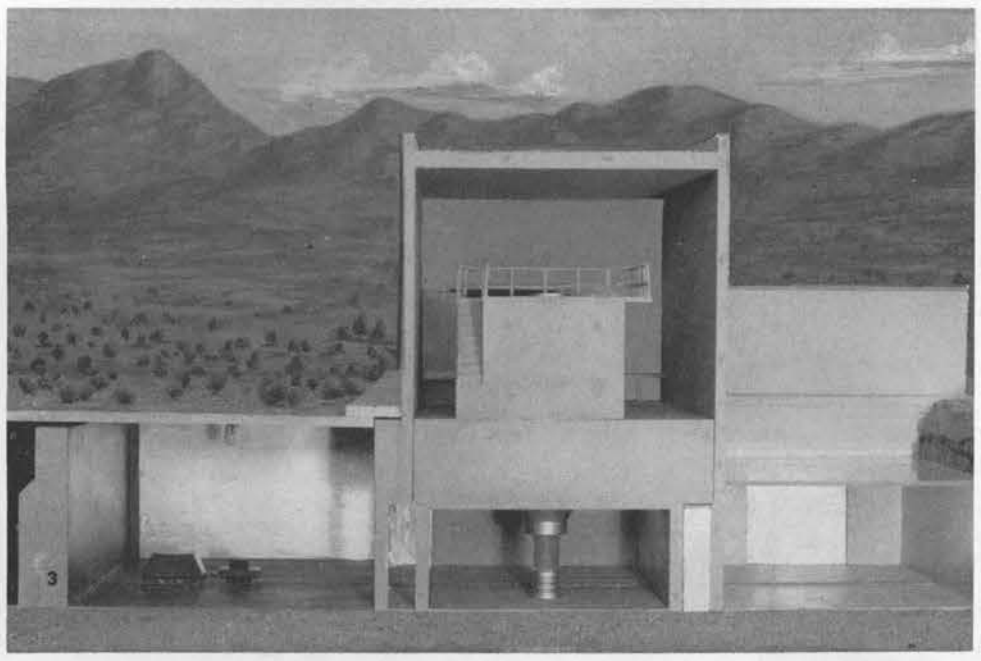
As a reporter she has covered many activities in 2721 during the past six years.

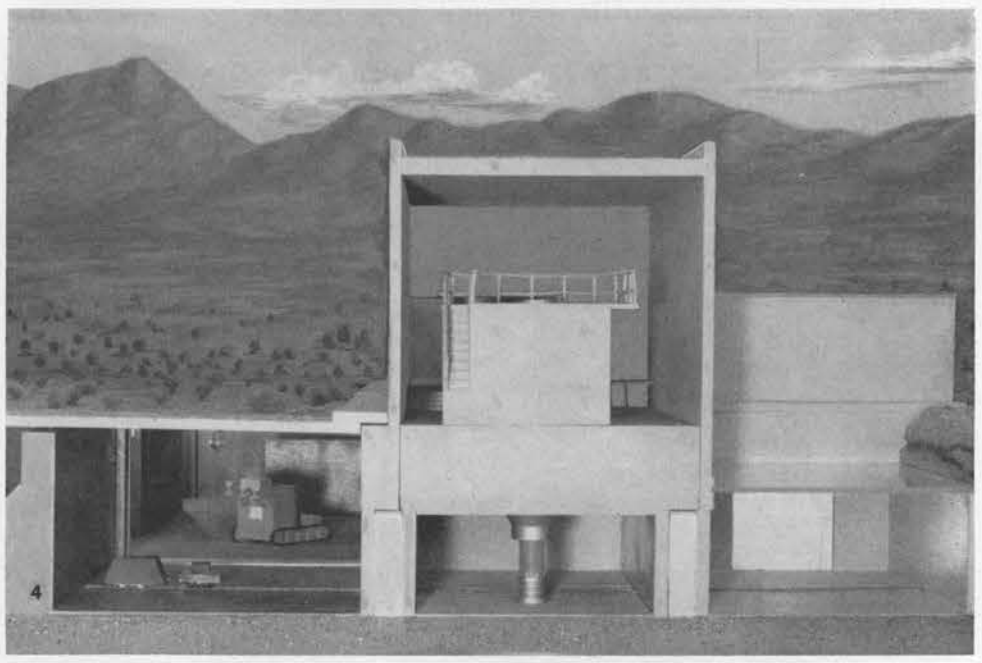
Dorothy came to Albuquerque from New Jersey for her daughter's health. Jill, the daughter, has worked for Sandia (in 7225) since last July.

Keeping up on electronic technology and terminology keeps Dorothy quite busy studying, but when she does have any leisure time it's often spent painting. She studied commercial art and has done free lance work in textiles so her work is varied in medium and subject matter.









THE SANDIA ENGINEERING REACTOR FACILITY (SERF), shown in this cutaway model, reveals the remote handling facilities used to transport test materials in and out of the radiation cell (center). In Photo No. 1 a remotely operated tug prepares to pull the test sample and trailer into the radiation cell. In Photo No. 2 the test sample is in the radiation cell while the tug has continued into the post-irradiation lock (left). In Photo No. 3 the tug has retrieved the test sample and both are in the post-irradiation lock. In Photo No. 4 the shielding wall separating the lock from the post-irradiation chamber is lowered to permit the sample to be moved.

SERF to Cost $2,900,000

Sandia's Reactor Will Operate 7000 Hours Yearly

Sandia's Engineering Reactor Facility (SERF) on which construction will begin soon, will have two advanced features making it the only one of its type in existence.

These special features, according to John Colp, supervisor of the Radiation Effects Section (1626-1), and Bill Snyder, supervisor of the Radiation Special Studies Section (1626-3), will be: 1. A remote system for inserting or removing samples to be tested while the reactor is running at full power; 2. A large "hot room" in which previously irradiated materials can be moved about by a remotely operated overhead crane system or by an operator riding in a shielded "Mobile Remote Handler" (MRH), equipped with a mechanical arm.

Because test samples can be inserted or removed while the reactor is operating, SERF is expected to operate on a round-the-clock basis for 80 per cent of each year, or 7000 hours. The remainder of time will be used for reactor maintenance and fuel changes.

Other reactors shut down for five days after every 20 days operation, and only at this time can materials be removed or placed in them.

The other unique feature of SERF is that irradiated test components will be analyzed in a large post-irradiation testing chamber, rather than in individual "hot cells" as in other testing reactors.

Remote Handling

Movement of test samples in the room will be accomplished with the aid of either the remotely operated crane system or the Mobile Remote Handler, which resembles an electric fork lift. The operator of the MRH will sit in a cab enclosed in heavy lead shielding to protect him from the high levels of radioactivity present in the room.

There will also be the conventional method of handling radioactive material, as employed at other reactor facilities in which the operator stands outside of a hot area, manipulating the test materials with the help of mechanical hands penetrating a shielding wall. Manipulation of test components will be accomplished with the aid of six sets of master slave manipulators, or mechanical hands, which will extend through the shielded wall into the post-irradiation room.

The advantage of a large post-irradiation room, as the one planned for SERF, is that it lowers the initial cost of construction, it has a greater post-irradiation test capacity, it increases use flexibility of operation and provides easier access to materials being tested. The large open area also makes possible easier decontamination of radioactivity.

As previously reported in the **Sandia Lab News,** the reactor will be used to subject materials to nuclear radiation and not to generate power.

Construction of the $2,900,000 SERF is scheduled to begin in approximately six months and it is expected to be in operation about September 1959. The AEC will let the architectural design and construction contracts for the reactor.

Partly Underground

It will include construction of a 23,000 square foot concrete building, part of which will be underground. The reactor itself will be a tank-type heterogeneous reactor using highly-enriched uranium fuel capable of operating at a maximum heat power level of 5000 kilowatts.

The core of the reactor will be located within a circular standpipe containing cooling water. A portion of the standpipe will extend through a heavily shielded irradiation room, measuring 22 feet by 30 feet and nine feet high.

In addition to the irradiation room, the facility will contain a laboratory for preparation of test specimens, post irradiation analysis laboratories, material dosimetry laboratories and office space.

SERF will be located at a controlled test site in Area III, approximately five and one-half miles from the main laboratory technical area. This remote location with controlled access was chosen to further safeguard the health and safety of employees.

The laboratories located adjacent to the reactor will be heavily shielded and biologically safe methods and facilities will assure adequate protection to operating personnel against radiation exposure.

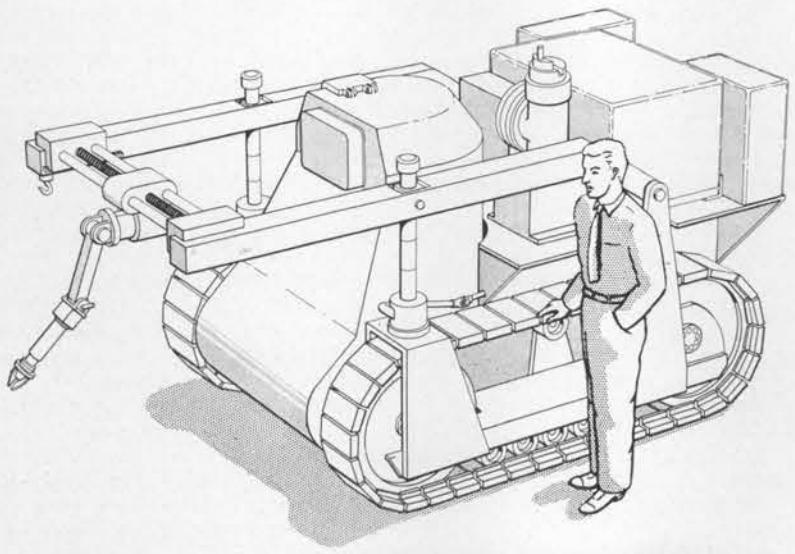
Safe Operation

Plans for the reactor in the SERF were patterned after one which has had a long operating history and a perfect safety record. A similar reactor has been used by the Atomic Energy Commission in studies of reactor operating behavior. In addition, the Reactor Hazards Evaluation Staff of the AEC has reviewed plans for SERF and will make another check of its design specifications before construction begins.

Nuclear aspects of the design of the reactor core, its associated cooling and control systems were determined jointly by 1626-3 personnel under A. W. Snyder (1626-3), supervisor of the Radiation Special Studies Section, and Drs. J. L. Yarnell and E. T. Jurney of the Los Alamos Scientific Laboratory.

Mechanical details of the construction of the core, its cooling and control systems, as well as the unique design phase of the facility were worked out by sections 1626-1 and 1626-3 of the Radiation and Materials Properties Division.

In addition to its use as an environmental test facility, it is planned that the reactor building will provide a facility for the Research Organization (5100) to make basic studies in the field of radiation effects on materials.



MOBILE REMOTE HANDLER, pictured here, and a remotely operated overhead crane system, will be used to move irradiated materials in the "hot room" of the SERF. Heavy lead shielding around the handler will protect an operator from harmful radiation.

NMSPE to Elect New Officers January 27

The New Mexico Society of Professional Engineers will hold its annual election and business meeting Jan. 27, it was announced by Bill Keeler (1282).

The meeting will begin at 7:30 p.m. in Rm. 2 of the Mechanical Engineering Building at the University of New Mexico. Coffee and doughnuts will be served.

ASQC Reschedules Dinner and Meeting For Tuesday, Jan. 28

Winter dinner meeting of the Albuquerque Section, American Society for Quality Control, originally planned for Jan. 16, has been rescheduled for Jan. 28, it has been announced by Bill Fears (5513).

Marcus Acheson, consulting staff engineer for Sylvania Electric Products Inc., will address the group on the subject, "Needed Development of Reliability Assurance Measures."

The dinner meeting is planned for 7 p.m. at the Hugh A. Carlisle Post No. 13, American Legion, at 1201 Mountain Road NE. Reservations can be made by calling Everett Ard (5511), arrangements chairman, no later than 9 a.m. Monday, Jan. 27.

Mr. Ard's extension at Sandia is 52263 and his home number is AX 9-0863.

Development Conference Announced For Sandia Department Managers

With the recent addition of a development course for department managers, Sandia Corporation will soon be providing training for all levels of supervision.

For the past year section and division supervisors have been attending a 56-hour supervisory orientation course of concentrated study in understanding the role of a supervisor. Almost 500 supervisors have completed the course to date and another 190 are scheduled to start Jan. 27.

Superintendents from Sandia Corporation have been attending the Dellwood Conference (three weeks duration) offered by the Western Electric Company in New Jersey.

The new Managers Development Conferences, which will be held at Bishop's Lodge, Santa Fe, are planned to assist department managers in development of management skills.

Sixteen department managers will be scheduled into each two week conference. Five conferences will be offered in 1958, permitting all department managers to complete the program by November.

Speakers at the conference will include Sandia Corporation President J. W. McRae, and S. P. Schwartz, Sandia Corporation Vice President and General Manager; Dr. T. J. Kreps, Stanford University; Dr. Howard V. Finston and Dr. W. J. Parish, University of New Mexico.

Depth Courses

All levels of Corporation supervision will be eligible to attend supervisory skills depth courses to be offered this spring. Featuring a maximum of practice and a minimum of lecture, the courses will run for three consecutive days. Each course will be limited to 12 supervisors.

Three courses will be offered initially. They are: Talking With People, Getting and Giving Information, and Leading Group Meetings.

Scheduling arrangements for these and other depth courses, which will be provided when needed, will be handled by department managers or superintendents.

Offers Broad Training

The program provided in these Management Development Conferences makes possible a continuous, broad based series of activities leading to fuller development of supervisors.

In the foreword to the manual used in the program, J. W. McRae, President of Sandia Corporation, states:

"Each supervisor should be on the alert for opportunities to develop his own abilities as a capable and understanding leader. In the final analysis, each of us is responsible for his own development. The purpose of the Management Development Conferences is to provide what will be a good opportunity for you to give special attention to developing your own skills and abilities as leaders."

Godfrey, Guinness Star in Noontime Movie Programs

Radio and TV star Arthur Godfrey will be featured in the Corporation's noon hour movie next week, while another popular British movie, starring Alec Guinness, will be offered in early February.

The schedule: Jan. 28-31, "Flying with Arthur Godfrey;" Feb. 4-7, Part I of "The Man in the White Suit."

The free movies start at 12:10 p.m., in Room 3, Bldg. 849 on Tuesdays and Thursdays and Room B-6 of Bldg. 802 on Wednesdays and Fridays.

Let Contract to Build $21,000 Pendulum for Sandia Corporation

A $21,631 contract has been awarded an Albuquerque contractor by the AEC for the construction of a testing facility for the Field Ordnance Division (5212).

The contract was awarded to G. W. Stuckman, whose bid was the lowest of the four submitted. The government's estimate for the project was $26,000.

The job calls for construction of a structural steel pendulum tower to be housed in a building connecting to the south end of Bldg. 880. The addition will have an approximate area of 450 square feet.

Heating, lighting, ventilation, and the installation of a government-furnished hoist and hydraulic floor lift are included in the project.

Completion of the project is expected within four months after receipt of notice to proceed.

The facility will be used to obtain data on moments of inertia, measurements of the ballistic qualities of inert experimental weapons.

New Mexico Engineers Professional Division First Meeting Jan. 29

First meeting of the New Mexico Section of the American Society of Mechanical Engineers Product Engineering Professional Division is planned for Jan. 29.

A film on the processing of aluminum, one of a series on production processes, will be shown. The meeting will be held in Rm. 2, Mechanical Engineering Building at the University of New Mexico.

ASM Offers Lecture Series Educational Course At UNM

The Albuquerque chapter of the American Society for Metals will present the first of a series of five "Engineering Metals" lectures Feb. 4 at the University of New Mexico.

All lectures will begin at 7:30 p.m. in Rm. 220, Mitchell Hall. The lecture series comprises the first educational course to be offered by the local chapter of ASM, it was announced by Byron Wickett (1624), publicity chairman.

Opening the series Feb. 4 will be a talk by Dr. G. U. Greene of the New Mexico Institute of Mining Technology, Socorro.

Registration for the five lecture series can be completed at Mitchell Hall between 7 and 7:30 p.m., Feb. 4.

Other lectures in the series and their dates are: "Carbon and Alloy Steels," S. C. Pirkola, ACF, Feb. 11; "Light Metals as Engineering Materials," K. E. Mead (1621), Feb. 27, and "Metals for Reactor Application," James Taub, Los Alamos, Mar. 4.

Radio 'Hams' to Hold Swap Session Jan. 28

A "swap session" is planned by the Sandia Base Radio Club at its meeting at the base club house Jan. 28, according to John Cundy (7232), secretary.

Trading is scheduled to begin at 8 p.m.

On Feb. 11, the club will have as its speaker Lee Swanson (1451), who will discuss semi-conductor applications for amateur use. He will also compare crystal diodes and transistors with electron tubes.

Livermore Golfers Elect Iversen VP

Barney Iversen (8114-2) was elected vice president of the joint Sandia-UCRL golf club, which is a part of the Rad Lab Recreation Association, at the Livermore Branch recently.

Club president is Howard Rien of UCRL.

Plans call for monthly tournaments to be played at courses in the Bay area. The handicap league has been set up with trophies and prizes for every flight. There will be individual competition and membership is open to women.

Next meeting of the club is slated for Feb. 3 when new members will be enrolled.

Welcome Newcomers

Jan. 1-17

Albuquerque
Pablo L. Baca 2474
Patricia A. Bigbie 2221
E. Beatrice Brinkman 2462
Harriet G. Brown 2464
James L. Dossey 5232
Ruth J. Grier 2225
Velda M. Hooten 7225
Dorothy Hummer 4333
Jacqueline F. Laskey 2333
Howard D. Malloy 2544
Roger A. McClure 2464
Joseph F. McIntyre 2464
Theodore P. Ortega 2418
Carol Sue Schafer 2552
California
Hugh C. House, San Francisco 8213-2
Illinois
Ronald E. Garin, Granite City 7411
Raleigh L. Pickering, East Moline 2723
Oregon
Rulon E. Taylor, Albany 8132-1
Texas
Norris E. Harrell, Fort Worth 5523

Service Awards
10 YEAR PINS

Hugh L. Odell
5216
Jan. 5, 1948

Maurice J. Shea
2481
Jan. 15, 1948

Robert S. Hewitt
7411-6
Jan. 26, 1948

Patricia E. Farley
3153-1
Jan. 30, 1948

Richard A. Richards
1442
Jan. 26, 1948

William E. Myers
2121
Jan. 30, 1948

Henry A. Tendall
1215
Jan. 30, 1948

Warren G. Merritt
7312
Feb. 2, 1958

Bernardo Gallegos
2232
Feb. 3, 1948

Paul H. Adams
1612
Feb. 4, 1948

Benino Jinzo
2473
Feb. 4, 1948

Monroe J. Blaylock
2473
Feb. 6, 1948

Leroy D. Shoemaker
2152
Feb. 6, 1948

FIVE YEAR AWARDS
Jan. 24-30

Rosemary R. Teasdale 7121, Delfred M. Olson 1262, Joseph G. Comiskey 7232, Edward J. Szyper 1451, Lennox B. Green, Jr. 7324, and Elizabeth W. Sloan 7221.

Jan. 31-Feb. 6

Norbert Eich, Jr. 1462, Harry B. Evans, Jr. 7111, Marilyn C. DeBetty 7411, Charles J. King 2542, John Lambie 7232, Hyacinth M. Walker 7226.

Owen R. Thomas 4111, Herbert L. Webster 1651, Evelyn L. Ricard 5241, Ira B. Wood 8122, and Bobby L. Schmedeman 2742.

TWO YEAR CERTIFICATES
Jan. 24-30

Emily A. Isaacs 8212, Vitalia V. Salas 4131, Pauline H. Spradling 2133, Dorthalea M. Smith 2533, Cleo F. Hughes 7311, Almon K. Alberts 7312, Donnie R. Fenstermacher 2462.

Ben Carroll 1625, Allyn R. Phillips 5131, Edward C. Carpenter 7411, John L. Hutton 5531, Theodore R. Holland 5142, Lemmie B. Shew 7312.

William L. Whitney 7322, F. Sue Steward 7221, and Pearl H. Sarthory 7226.

Jan. 31-Feb. 6

Samuel McAlees, Jr. 5144, Melvin G. Oberst 1463, Woodrow W. Key 7213, Paul D. Scates 2711, Sheldon P. Bliss 3160, Leslie O. Romp 7323.

Muriel M. Iverson 5243, Gordon L. Smith 7411, Roger D. Aden 1215, Richard C. Moyer 5523, Hervey L. Hawk, Jr. 1263, Frank G. Janas 2723, Billie L. Palmer 2461, and Sheila E. Souther 2722.

Test Your Tax I. Q.

Test your knowledge of the federal income tax law on this quiz prepared by the American Institute of Certified Public Accountants in cooperation with the Internal Revenue Service. You will find the correct answers on page 5.

1. Last October your two-year-old car skidded on a wet road and grazed a telephone pole. The damage was not covered by insurance and it cost you $100 to have the car repaired. To claim a casualty deduction . . .

(a) You must have the damage repaired within 30 days of the accident

(b) You may simply deduct the amount of the repair bill

(c) You must prove that you were using the car to go or return from work

* * *

2. After discovering that additional schooling would be helpful to you in your job, you signed up to take a special correspondence course from a nearby university. The cost of your tuition, books and material will be deductible if not reimbursed by your employer and if . . .

(a) You receive a promotion as a result of your study

(b) The special schooling is required by your employer

(c) The cost of the course does not exceed $100

* * *

3. While playing hide-and-seek in your backyard, the neighbor's children trampled and killed several of your more expensive bushes. The cost of replacing this shrubbery . . .

(a) May be deducted if it does not exceed the original cost of the bushes

(b) May be deducted only if the children's parents refuse to pay damages

(c) May not be deducted under any circumstances

* * *

4. You have a savings bond taken out of your pay each month. These bonds are kept by you, but they list you and your son as joint owners. When he cashes them in to pay his college educational costs, the accumulated interest will be regarded as taxable income to . . .

(a) You as the real owner of the bonds

(b) Him as the real owner of the bonds

(c) Neither of you since the money will be used for educational purposes.

* * *

5. You filled very few inside straights during the past few months and lost approximately $200 to the boys in your Thursday night poker club. You should . . .

(a) Deduct the loss in computing adjusted gross income

(b) Subtract the loss from adjusted gross income

(c) Give up poker and start watching television on Thursday nights

* * *

6. Your 17-year-old son, who is single and lives at home, worked during the summer and earned $700. When it comes time to file a tax return . . .

(a) He should not file a return since he is a minor, but you must include his income on your return

(b) He should not file a return since he is a minor, and you need not include his income on your return

(c) You should both file returns

* * *

7. The bill of sale which you received when you bought your new car last year listed these items: state sales tax $65; federal excise tax $175. On your federal tax return, you may . . .

(a) Deduct only the state tax

(b) Deduct only the federal tax

(c) Deduct both federal and state taxes

* * *

8. You gave your church a small piece of real estate for which you had paid $500 some years ago. Its value at the time of the gift was $1,500. As a result . . .

(a) You may claim a tax deduction of $1,500

(b) You must pay a capital gains tax on the $1,000 increase

(c) You may claim a tax deduction of $500

* * *

9. Your daughter, who was hospitalized for several weeks during the earlier part of 1957, was married in November. If she files a joint return with her husband, you may . . .

(a) Not claim her as a dependent but you may deduct her medical expenses

(b) Claim her as a dependent and deduct her medical expenses

(c) Not claim her as a dependent and you may not deduct her medical expenses

* * *

10. After you have filed your 1957 tax return, the Government is allowed to check your return and bill you for additional tax. The period of time in which this may be done ends . . .

(a) On the day you file your 1958 return

(b) Two years after you file your 1957 return

(c) Three years from the due date of your 1957 return

* * *

11. You purchased a lot on a nearby lake with the idea of eventually building a family summer cottage. You paid real estate taxes this year which . . .

(a) Are not deductible since the property did not produce any income

(b) Are deductible regardless of income produced

(c) Can be added to the original cost of the property

* * *

12. Remembering last year's headache, you engage a CPA to prepare your 1957 tax return. The fee he charges for this service is . . .

(a) Not deductible if you are entitled to a refund

(b) Not deductible since it is a personal expense

(c) Deductible under any circumstance

Supervisory Appointments

DUANE J. HILLARD to supervisor of Budget Section 4151-1, Accounting Division.

Duane has been at Sandia since June 1950 and has worked during that period in vouchering, cost accounting, general accounting, budget, general auditing and business methods.

He came here direct from the University of New Mexico where he received a Bachelor's degree in Business Administration, majoring in accounting.

For two years he served in the Army Air Force, part of the time in the Pacific on a troop carrier.

He is a member of Beta Alpha, accounting honorary.

PETER J. KOMEN, JR. to supervisor of Special Problems Division 1413, Electronic Research Division.

"Pete" has been at Sandia three and one-half years and became supervisor of Section 1411-1 in Aug. 1956.

Previously he was a communications design engineer for the Bonneville Power Administration at Portland, Ore.

He received his BS degree at the University of Washington. After receiving his Master's degree in Electrical Engineering at Washington State College, he remained there three years in the electronics institute and one year as an engineer in the college experimental station.

During three years in the Army Signal Corps Pete was a radar officer at the Army Electronics Training Center at Harvard University and Massachusetts Institute of Technology and later helped set up a radar school at Fort Sill, Okla.

He is a member of Tau Beta Pi, engineering honorary, and Sigma Xi, science honorary.

WILSON BROWN to supervisor of Mechanical Design Section 1218-1, Project Division.

Wilson has been working in engineering design during his three and one-half years at Sandia.

Previously he was in aircraft design engineering and test work for seven years at Glenn L. Martin, Baltimore; Chance Vought Aircraft, Dallas; and Beech Aircraft, Wichita.

A native of Scotland, he attended the University of Glasgow and later George Washington University in Washington, D. C., and Johns Hopkins University in Baltimore.

JOHN G. WIMPLING to Service Section 2713-4, Field Inspection Division.

He has been with Sandia nearly four years in field inspection and field inspection engineering in the East Coast area (Section 2713-1).

Previously John was employed by the Corps of Engineers for three years in field work in Baltimore and the Susquehanna River area of Pennsylvania.

He was also 12 years with the Glenn L. Martin Co. and Ellicott Machine Corp., both in Baltimore.

John graduated from the Baltimore Polytechnic Institute and later attended courses in quality control, packaging and processing.

During World War II he served two years with the 82nd Airborne Division, including duty in Europe.

AOA Schedules Movie

The Albuquerque Post of the American Ordnance Association will show a film "Dynamic Measurements" at its meeting Jan. 28 at the Kirtland Officers Club.

The movie, in color with sound, is on the subject of rocket sled testing and instrumentation. Beginning at 7:30 p.m., the meeting is open to all persons.

Bldg. 880 Is Made Ready For Installation of IBM Processing Machine

Work is expected to begin soon on the modification of the northeast corner of Bldg. 880 in preparation for the installation of the IBM 705.

Styron Construction Company of Albuquerque submitted a low bid of $116,650 for the modification work. About 6500 square feet of the building will be modified for installation of the electronic data processing equipment.

The work will include construction of a raised floor, new ceiling, new partitions, and installation of electric heating and air conditioning equipment, a transformer station and floor covering.

Plans for the modification work were drawn up by the Plant Engineering Department (2440).

Basketball League to Open Season on Feb. 3

The Sandia Corporation basketball league will get off to a late start, opening its season Feb. 3. The game schedule will be announced shortly, according to Gordon Ross (3122).

Delay in opening the season was caused by difficulty in finding suitable courts on which to play, Ross said.

Games now will be played at gyms located at Highland and Valley High Schools, Lincoln and Wilson Junior High Schools. Games will be played at 6:45 p.m., 8 p.m., and 9:15 p.m. on dates yet to be set.

Persons interested in playing in the Sandia league can contact the following people in their organizations for information:

Max Newsom (1200) Ext. 27265; Leo White (1400) Ext. 32165; Jack Heuter (1600) Ext. 43150; Jerry Cole (2100) Ext. 29239.

Marion Scott (2200) Ext. 44144; David Chavez (2300) Ext. 24239; Tony Lopez (2400) Ext. 34139; Hal Cushman (2500) Ext. 37132; Joe Armijo (2700) Ext. 22155.

Marvin Steputis (3100) Ext. 40147; George Banos (4100) Ext. 28145; Ted Trybul (5100) Ext. 33248; Bob Frame (5200) Ext. 35160; Ron Bump (5500) Ext. 34266.

Don Hosterman (7100) Ext. 37161; Ben Garcia (7200) Ext. 32236; Carl Bollinghouse (7400) Ext. 37239, and Jack Burke (AEC) Ext. 83-373.

Test Your Tax IQ

Here are the correct answers to the questions on the federal income tax law which are printed on Page 4.

1. (b) The IRS has ruled that "if the repairs do nothing more than restore the property to its condition immediately before the casualty and do not add to (its) value, utility or useful life, such repair costs may be used as a measure of the value of the destroyed portion." Where you were going at the time of the accident does not affect the deductibility of car damages.

2. (b) The cost of special schooling is considered a personal expense when pursued voluntarily, and therefore is not deductible. Where additional training **is required** by an employer, you may deduct the expense of tuition, books and materials. You would be wise to check with the IRS before claiming a deduction for school expenses incurred in connection with your job.

3. (c) Damage to your shrubbery caused by children, dogs, or errant lawnmowers is not deductible. If your lawn or home is damaged by fire, storm or flood, the loss not covered by insurance is deductible. When large amounts are involved it is wise to have an expert appraisal made immediately after the casualty.

4. (a) Since you bought the bonds and kept control of them, the Government regards you as the actual owner. You will be liable for the tax. The accumulated interest will be taxable to your son only if you make a clear and irrevocable gift of the bonds to him when you buy them.

5. (c) Watching television can be most relaxing and it might even help you to forget your poker losses—which is the thing to do because net gambling losses are definitely non-deductible. Net gambling gains are taxable as income; so if you won money in a football pool, you may use your poker losses to offset these gains.

6. (c) The law specifically states that the income of a child must be reported on his own federal tax return and not that of the parent. Filing in this manner will not cost you a $600 dependency exemption on the family return, and your son may also claim a $600 exemption on his own return. Your child may be claimed as a dependent, regardless of how much he earns, providing he is either a full-time student or under 19 and receives more than one-half of his support from you.

7. (a) Federal excise, income, estate and gift taxes are not deductible on your return. State and city sales, income, real estate and gasoline taxes paid during the year are. Easily overlooked items that also are deductible: interest charges on auto loans, home mortgages and time payment charge accounts.

8. (a) Your deduction for a charitable contribution is the value of the gift at the time it is made. You are not considered to have realized a taxable gain or deductible loss when you give property away. You may claim a charitable deduction for the entire $1,500 so long as this amount does not exceed 20 per cent (30 per cent in some cases) of your adjusted gross income.

9. (b) You gained a son-in-law but you lost a $600 dependency exemption when your daughter married in November. All is not lost, however. If you provided more than one-half your daughter's support during the year, you may claim her medical expenses as a deduction on your return.

10. (c) In the absence of fraud or substantial understatement of income, the Government has three years from the due date of your 1957 return to check your return and bill you for additional tax. Since the due date of most individual returns is April 15 and for investigation purposes all returns are treated as though filed on the due date, you should be sure to save all check stubs and receipted bills to prove your declared deductions for 1957 until April 15, 1961.

11. Either (b) or (c) is correct. Real estate taxes which you pay are deductible whether the property produces income or not. You may deduct them on your tax return, or if you prefer, you may add them to the cost of the property. While adding them to the cost of the property will not give you an immediate tax advantage, it will decrease the gain you might realize from the sale of the land later. The avoidance of a capital gains tax may save you more tax dollars than would a yearly deduction.

12. (c) The fee which a CPA charges you to prepare a tax return or defend the accuracy of your tax return before the Treasury Department is deductible if you itemize deductions.

SHOPPING CENTER • SHOPPING CENTER • SHOPPING CENTER • SHOPPING CENTER • SHOPPING CENTER

CLASSIFIED ADVERTISING

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

RULES

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

FOR SALE

TRAILER, steel sides, tailgate; 4'x8' bed; '49 Plymouth tires; ball hitch. Phillips, DI 4-4163.

FARM with 4 br. adobe house; 6 acres; new alfalfa; 1¾ miles from Peralta School. R. K. Skelley, Rt. 1, Box 354, Los Lunas, N. M. Ext. 26134.

MAN'S BICYCLE, 26", blue, $18. Scott, AL 5-0344.

BABY BED, Storkline; stroller and car seat. Berry, AL 6-3629.

STEEL VENETIAN blind, 4½' x 3½' with cornice. Full size innerspring mattress. Milligan, CH 3-2429 after 6 p.m.

'50 CHEVROLET, 2 dr. delux, execellent second car. Hann, AX 9-4216. See at 8406 Haines NE after 5 p.m.

PERSIAN LAMB coat, natural grey, ¾ length, flair bottom and flair sleeve, stand up collar. Gustafson, Ext. 36291.

ROLLAWAY w/Mattress, 48" for $30; 36" for $25; 14" handmower $6; 8 piece Coronado dinette set w/six chairs $25. Miller, AL 6-2245.

BUNK OR TWIN beds with mattresses, side rail and ladder, $65; two kitchen stools; table with two chairs; corner cupboard. Wickham, Ext. 47296 after 5:30 p.m.

TRAILER, single wheel, 4' x 4½' x 2, weatherproof plywood box and cover lights. new tire and tube. Martin, AL 6-6785.

CAMERA, Premo Sr., 4 x 5, ground glass focusing, f:6.3 Kodak Anastigmat lens and film holder, $15. Petrone, Ext. 45194.

AUTOMATIC WASHER, $30. Gaeto, DI 4-0491.

GAS PISTOL, Crossman, with bell target, ammo and extra cylinder, $15. Lionel coal elevator with two dump cars, $10. Laskar, AX 9-1024.

20" BICYCLE, boy's, with training wheels and basket, $15. Hicks, 321 Manzano NE, Ext. 27143.

2 HORSES; seven year old gelding cutting horse and two year old black mare. Kovaschetz, Ext. 23144, or see at Rt. 1, Box 282, Los Lunas.

7:60 x 15 TIRES, four, Goodyear Double Eagle nylon whitewall tubeless, used for 2,000 miles; 1947 Jeep station wagon. Sayers, AL 5-5773 after 5:30 p.m.

'57 Lambretta motor scooter, accessories; transmitter, 1 kw phone, less exciter. Grab, AL 6-9515.

WESTINGHOUSE REFRIGATOR, 8 cubic foot size, $65 or trade for guns. Morgan, AL 6-9637.

TWIN STROLLER; body parts, engine, wheels. etc. for '52 Nash Adv. Hydramatic. Schiess, AL 5-3252.

WASHER, Wringer, refrigerator, $15. Drapes, like new, make offer. Corrigan, AX 9-7050.

GAS RANGE, 38" Estate, oven window and light, hood lamp, electric clock, timer, griddle, $45. Coon, AL 5-6545.

'51 OLDSMOBILE 98, R&H, new tires, battery and fuel pump, two-tone, $400. Olson, AX 9-0617.

17" TV Admiral Console, $75; six year crib, $15. Wyche, AL 5-8554.

ELECTRIC RANGE, '54 Hotpoint, automatic timer and pigtail, $85. May be seen at 6817 Eastern SE. Stambaugh, AL 5-0637.

BOWLING SHOES, ladies size 4½ B, slightly used, $5. Minor, AX 9-2267.

3 BR. HOUSE, den, 1¾ bath, w/w carpeting, air conditioning, covered patio, barbecue, sprinklers, walled yard, 1013 Dakota SE. Pyetzki, AL 5-6354.

'50 BUICK Sedanette, R&H, $175 or best offer. Will trade for old guns. Zaluga, DI 4-1564.

BABY CRIB and mattress. $7 or trade for bunk beds. Odell, AX 9-7483.

'34 FORD, chopped down, best offer. Seen at 836 Georgia SE. Armijo, AL 6-1629.

PLYMOUTH MUFFLER, new, $5; Storkline baby buggy, reversible top and handles, $15 or best offer. Hogue, 1435 Espejo St. NE, AX 9-1807.

'55 FORD Customline ranch wagon, 2-dr., 6 passenger, sleeps 2, V-8 engine, powerpack, dual exhausts, overdrive, R&H, $1495. Shew, AL 5-0263.

NEXT

DEADLINE

FOR SHOPPING CENTER ADS

Friday Noon, Jan. 31

SCHWINN BICYCLE 26" girls, thornproof tires, $25. Keyser, AL 6-1285 .

2 BR. HOUSE near Bases, total price $5,650 with $650 down and $58 a month. Chavez, CH 2-1791.

PIANO, Lester Betsy Ross Spinet, blond, almost new, reasonable. Beaube, CH 2-1703 after 5:30 p.m.

CRIBS, both sides and springs adjustable, Storkline, $10; matching wardrobe, $12.50; Edison with Kant Wet mattress, $17.50. Weems, AM 8-1702.

'52 FORD Mainliner, white sidewalls, heater, one owner, $650. Garcia, CH 7-8268.

ENGLISH BIKE, $30. Smith, AL 5-6478.

HOLLYWOOD BED FRAME, with casters, $5. Ives, AX 9-7003.

LIVING ROOM chairs, one green, one red upholstered; two end tables, one occasional table, one cocktail table. Baylor, AX 9-3915.

BABY TENDA, $8.50; baby bed with innerspring mattress, $17.50; horsehide jacket, size 38, new, $9. Ross, AX 9-1526.

'51 FORD RADIO, $15, and 9' x 12' wool Bigelow rug, $75. Stewart, AX 9-5826.

TRADE—NORTHLAND SKIS, 7' laminated hickory w/edges, for comparable 6'9" or two "beat-up" pair (6'9" and 6'6"). Miller Ext. 42263.

'53 PONTIAC, 4 dr., extra clean, R&H, Hydro, loaded, priced right. Hanen, Ext. 25268.

20" BICYCLE, girl's, $10; large tricycle, $5; swing set, $10. Stohner, AX 9-6897.

WEBCOR Tape recorder, two-speed, half-track, Model 2020, $85. IBM Electric typewriter, 16" carriage, elite w/carbon ribbon attachement, 1 year old, $425. Hughes, CH 7-8628.

WASHER Easy spindryer, 5 years old; lined grey picture window drapes, 82" x 94", modernistic design. Sieberman, AX 9-7206.

COFFEEMAKER, Sunbeam; GE steam and dry iron, about one year old. Reasonable. Walker, AX 9-0662.

'57 TRAILER, Expando Home, 450 sq. ft., take cash or equity in home, cost $7500. Roberson, DI 4-0077.

'49 WILLYS "6" Station wagon, new motor, overdrive, heater. Carman, AX 9-3851, 2107 Parsifal NE.

'49 FORD coupe, R&H, new tires, battery and brakes, $190. Springer,AL 6-5095.

DINETTE SET, red and grey, w/chairs, $20. Ayers, AX 9-1055.

BEDROOM SUITE, modern, blonde, w/innerspring and mattress, double dresser, 42" plate glass mirror. Neubauer, AL 6-7068.

'57 VOLKSWAGEN, sedan, luggage carrier and under dash rack, 7600 miles, light blue, dark blue leatherette upholstery. Sinnott, AX 9-1300.

PERSIAN PAW coat, ladies, worn only four times, $60. Edwards, AX 9-5496.

'56 SCOOTER, Cushman Eagle Motor, lots of accessories, new tires, $225. Howard, AL 5-9489 after 5 p.m.

21" TV, Arvin table model, will trade, what have you? Davis, AL 6-7900.

CHIHUAHUA PUPPIES, AKC registered, various colors, $50. Cowan, CH 2-1052 after 5:30 p.m.

21" TV, radio and 3-speed phonograph, Admiral, '55 model, mahogany, $150. Forster, AL 6-7200.

LAUNDRY TUB, porcelain, single w/stand and plumbing fixtures. Higley, AM 8-8998.

KARLSON ENCLOSURE for 15" speaker, $35; table model radio, $10; Admiral radio-3-speed phono combination table model, $30. Bytheway, AL 6-4843.

FEMALE DOG, small, spayed, excellent pet for children, permanent distemper shots, Grotberg, AX 9-1704, after 5.

SOFA BED, $25; Bendix Automatic washer, $50. Gilkeson, AX 9-7591.

'57 CHEVROLET, 4-door, station-wagon, 210 series, two-tone, V-8, powerglide R&H, 13,000 miles, will consider trade, $2295. Thomas, AX 9-3838.

BOLT ACTION RIFLE, Mossberg carbine 22 cal. S. L, LR; w/4 power scope, $30. Hansen, Ext. 23182, 3356 48th Loop.

STORKLINE CRIB and mattress, $15. Lundbom, AX 9-6856, 9019 Los Arboles NE.

AF OFFICER'S blue blouse and trousers, $25. Abruzzo, AL 6-6735.

2-WHEEL TRAILER, 4x4x5 feet, custom canvas top, new tongue and hitch, fenders and tail light. Ramirez, AM 8-1253, 2617 Indiana NE.

3 BR HOUSE, 1¾ bath, double garage, extra 40 foot playroom and utility room. Mahoney, AX 9-6241.

'53 FORD station wagon, 6-cylinder, automatic transmission, 2-tone, R&H, $725; 2 twin size metal coil springs, $4 each. Fleming, AX 9-6833.

VIOLIN, used 2 school terms, $50 w/bow and case; cowboy boots, size 6½, leather, paid $32, sell for $15. Grey, AX 9-7349.

EASY SPIN-DRYER washing machine, $35 or best offer. Wilson, AL 6-7694.

LOST AND FOUND

LOST—Coin purse, lady's black gloves, 2" round amber and brown pin, 2 car keys in brown holder. LOST AND FOUND, Ext. 26149.

FOUND—Stamps in envelope, Ford keys on large ring w/brass disc #8833; three keys in black leather holder; green Ray-Ban glass case, keys with disc Hehr Mfg. Mobile Homes; tan knit gloves, Manor lighter. LOST AND FOUND Ext. 26149.

WANTED

RIDER to Detroit, Michigan, leaving about Jan. 30. Gratton, Ext. 49113.

CHILDREN to care for in my home. Gay, AX 9-5625, 9204 Claremont NE.

TO RENT HOUSE in NW valley after Feb. 1, preferably in MacArthur school district. Baxter, AL 6-4559.

CHILD CARE in my home, days, 1 or 2 children. Wells, AX 9-2508, Princess Jeanne Park.

IRONING to do in my home, $1 per hour. Holliday, AL 5-8479.

8mm PROJECTOR and screen. Garcia, CH 2-1182.

TYPEWRITER, good used one. Pavelko, Ext. 33192.

WANT TO BUY 12 volt D.C. to 115 VAC inverter, 85 to 100 watts out put. Gabaldon, Ext. 31160.

DECEMBER 1957 issue of New Mexico Magazine. Jones, AL 5-3390.

WILL TRADE 30:40 Krag for Hand Loading Set. Miller, Ext. 4-5275.

COUNTRY HOME wanted for French poodle, medium, two years old, must be able to run free of city; also have puppy, large type. Downs, AX 9-5022.

FOR RENT

TRAILER SPACE in mountains, beautiful scenery, swimming pool, car pool to Bases, $15 per month plus lights. Souder, Ext. 34161.

Part V: Sandia Corporation's Place in the Nuclear Weapons Program

Sandia Assures That Weapons Are 'The Very Best'

Editor's Note: Previously, the articles in this series have discussed how a weapon progresses from the "idea" stage to final proof-testing. In this article, Sandia's responsibilities in Manufacturing and Quality Assurance of weapons will be covered.

When the testing of a new nuclear weapon is completed, it is Sandia's job to arrange for its production in desired quantities and to arrange for inspection, delivery, storage and stockpile surveillance.

Sandia is not a manufacturing agency but rather it guides the production of weapons, maintaining quality checks and controls to assure that items from all production sources will provide the best possible weapons for the Nation's ever-growing arsenal of defense.

In arranging for the manufacture of nuclear weapons Sandia, through its purchasing organization, places some 50,000 separate procurement contracts in a single year, doing business regularly with more than 3600 suppliers in 43 states and several foreign countries.

Production facilities for nuclear weapons are necessarily decentralized, partly for security reasons, but mainly because of economic and time factors. That is to say, manufacturers scattered throughout the country have specialized plant facilities and production experience needed to produce quality components at reasonable cost in a minimum amount of time.

Because production facilities are located some distance from Albuquerque, Sandia must maintain constant liaison with suppliers from the time they are chosen to produce a component until the finished product is delivered in the specified quantities.

This liaison is carried out by Sandia's manufacturing engineers, men with varied backgrounds in engineering and manufacturing techniques.

Manufacturing Engineers

The manufacturing engineer participates in the development of a weapon from the very beginning, suggesting to the design engineer any changes which would speed up its manufacture or cut production costs.

Before component designs are released for production, the manufacturing engineers make preliminary studies to determine which companies are capable of producing a quality job within a specified time at reasonable cost.

When this evaluation is completed the manufacturing engineer makes his recommendations to Sandia's purchasing organization. Whenever possible, bids are asked and a contract is awarded to the successful bidder.

The manufacturing engineer further assists in the production of weapon components by initiating the design of the specialized gauges, tools, and production test and handling equipment. These are needed to produce and check components in the process of manufacture to insure uniformity and compliance with specifications.

After the item is in production the manufacturing engineer follows the progress of the work and makes certain that all approved changes are incorporated in remaining undelivered items.

In many cases, items already delivered must be modified to incorporate such changes. A weapon design is never "frozen." Improvements in current designs may necessitate extensive reworking of existing stockpile weapons and, in some cases, replacing them with later models.

Quality Assurance

One of the least publicized—and perhaps the least understood—functions Sandia Corporation performs for the AEC is that of Quality Assurance. This is the job of evaluating Sandia-designed weapons materiel on behalf of the AEC to make certain such material is of highest quality and that it will function as desired when, and if, needed. The program is of a continuing nature, from the time items are manufactured to the time they go into the nation's stockpile and beyond.

On the basis of the information developed through this program, the AEC can assure its customer, the military, that the weapons in stockpile are the very best and most reliable it is possible to produce within a minimum of time and at reasonable cost.

Fundamentally, the Quality Assurance program is one of an auditing nature. It is assumed that the best design has been worked out, and that the production controls are adequate to deliver a satisfactory product.

The Quality Assurance program verifies that this has been done—that there has not been and will not be a slip up. There must be no weak link in the chain.

The Quality Assurance organization, with the concurrence of the Albuquerque Operations Office of the AEC establishes the operating methods and policies covering all aspects of the QA program. A number of related activities must be coordinated, including: (1) Verification Inspection. (2) Destructive testing, (3) Analysis of field reports, and (4) Quality Surveys.

Verification Inspection

Fundamental data for Quality Assurance are obtained by inspection of samples of a product. The results of this inspection will provide data upon which an acceptance decision can be made by the AEC. On the basis of engineering drawings and specifications the Quality Assurance organization establishes standardized procedures for the inspections to be performed when the production samples are available.

These include selection of the characteristics to be checked, determination of the sample sizes to be taken and the acceptance criteria to be used.

PLANES, such as this F-100 with conventional bombs, can carry nuclear weapons which will work if the time comes when they are needed. Work carried on at Sandia in Quality Assurance helps guarantee the reliability of all weapons in the nation's stockpile. Assured performance is goal.

Complete perfection is not expected in any product. That would be too costly and time consuming. It is recognized that satisfactory performance is possible even though an item may contain some minor defects. The amount and type of defects allowable are determined by the intended use of the device in question, including its relationship to other components in the weapon system.

As might be expected, however, the standards for nuclear weapons materiel are more rigid, the performance requirements greater, the tolerances closer than would be found in most commercial products.

The Quality Assurance definition of a defect is "a departure from a specified engineering requirement or a recognized standard of good workmanship." Thus, the inspector's basic job is to determine whether or not a requirement has been met, but not to make an engineering decision that defective material is "good enough" for use in nuclear weapons unless specific deviations from the design specifications have been authorized.

In order to assure a uniformity of inspection methods and full understanding of the statistical procedures involved, Quality Assurance provides a continuing training program for all personnel engaged in this activity, including AEC personnel. Refresher training is given regularly, to keep the inspectors up to date on QA techniques and principles.

Destructive Testing

There are many types of components which cannot be adequately inspected and checked by non-destructive methods. Minor changes in some production process may alter an important characteristic of an item, and although rigid production process controls are used to check important points, it is still possible that some may be missed. For that reason, QA people procure small samples of such components periodically throughout the production run.

These samples are tested under simulated operating conditions—overtested, if necessary, to determine failure points and operational limits. Then the item may be torn apart and inspected for hidden flaws or weakness.

Defects of importance found through tests, of course, result in corrective action being taken by the responsible design or manufacturing organization. Some of the material taken at this time is held for testing at later dates to compare test results and make certain that important characteristics are not affected by aging of the device.

To some degree, testing of this kind is a substitute for information that the manufacturer of a commercial appliance might obtain from the customer who uses the device immediately and continuously.

Accelerated "life" tests conducted in Sandia's environmental laboratories provide such data.

The direct relationship between accelerated environmental tests and the effects of field exposure under various climatic conditions are not well known. To learn more about the ravages of nature, as contrasted with the man-made weather in Sandia's climatic chambers, weapons and sub-assemblies and single components have been purposely exposed to the elements in various parts of the United States, where the most extreme conditions exist.

Results of these tests conducted over a period of several years, have provided valuable data for the improvement of specifications and methods for accelerated environmental tests. In addition field exposure tests provide a further measure of assurance for the using agencies.

Analysis of Field Reports

The maintenance of the weapons stockpile is a function performed by the military, but Sandia does provide technical assistance and instructions for this program. Reports are received by the Quality Assurance Organization each time inspections are performed on weapons during or after maintenance or in the course of modification activities.

All of these data are collected on punched cards and a complete record of every single stockpiled weapon is maintained "from the cradle to the grave." Collectively this information is invaluable. Of primary importance are the data on component defects found during maintenance operations on a number of weapons of a given type.

Reliability estimates made from the data derived during development and production stages may be confirmed or changed as a result of these storage tests. Defective components may be recalled to Sandia for laboratory analysis when it appears desirable to isolate causes of failure.

Quality Surveys

The Quality Assurance organization conducts two types of complementary surveys on a continuing basis. The first of these is the Supplier Survey and is primarily concerned with an audit of the facilities and performance of important suppliers to AEC prime contractors.

This survey covers the raw materials procurement, process controls, inspection methods and other factors relevant to quality and the uniformity of the product.

The second is the Product Survey, which is an examination of the status of the drawings and specifications and all factors affecting manufacture and the maintenance of specific important material which may affect quality of the product.

Both types of surveys are performed by committees representing the responsible prime contractor, the AEC and the Sandia QA organization.

Improvements in design, specifications, manufacturing processes, quality control or quality assurance methods may be recommended as a result of the survey activity.

Without data developed by surveys, an undesirable risk might be taken by the AEC when acceptance of material is based on small sample inspection plans. Consequently, surveys are considered an extremely important part of the QA program.

The end activity of the Quality Assurance organization is to provide usable and useful information to design groups, management, and the AEC and DOD on the quality status of materiel delivered and in stockpile. Different types of analyses are provided to suit the needs of the various groups with a "need to know."

The primary obligation of Quality Assurance is to provide the AEC with objective and impartial information on the quality and adequacy of the materiel accepted and in stockpile. However, the information developed is extremely useful for other purposes, such as (1) Providing feedback to the design and manufacturing agencies, resulting in improvement of future weapons, and (2) Providing supplier managements with data which may result in improved and perhaps less costly methods of manufacture, with ultimate savings to Sandia and the AEC.

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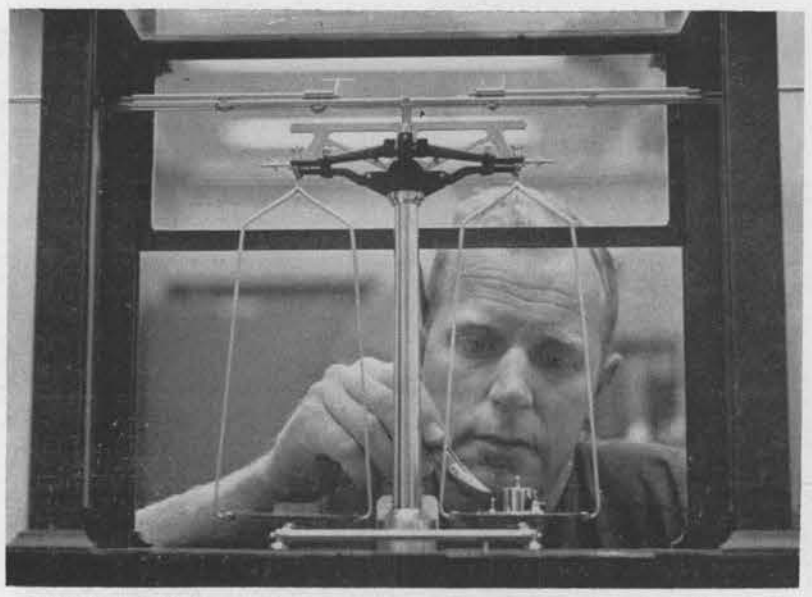
In the next and final article in this series of Sandia's responsibilities in the nuclear weapons program, Sandia's job in providing the military services with information on the field preparation and operation of weapons will be discussed. The series will conclude with a look into Sandia's future.



STANDARDS for nuclear weapon parts are exact; some kinds of discrepancies cannot be tolerated. Here George Johnson (5531-3) uses analytical balance scales to check an engineering requirement.

HOT CHAMBER to simulate extreme conditions is used by James R. Collier (5522). Quality evaluation runs the gamut of temperature extremes, humidity and vibration to check parts performances.