



SPR-II MOCK UP, built full scale in Sandia's Development Shops, has helped designers visualize design, control, and operational features. From left are Dick Coates, project engineer; Willard Schmidt, nuclear designer; Jon Reuscher and Don Cox, mechanical designers. All are in Reactor Development Division 5223.

Improved Sandia Pulsed Reactor II Enters Hardware Fabrication Stage

An improved pulse reactor for Sandia Laboratory is now in the fabrication stage, according to Paul O'Brien, supervisor of Reactor Development Division 5223. Called Sandia Pulsed Reactor II (SPR-II), the new reactor is expected to be installed and to undergo initial stages of testing in April.

The reactor will replace SPR which has been one of the hardest-working pulsed reactors ever built. Since installation in June 1961, SPR performed more than 5300 bursts for radiation effects studies.

SPR-II will be a bare metallic assembly and will produce fast neutrons with an average energy of 1 MeV (million electron volts). It will be used for radiation effects studies similar to those now being performed with the present Sandia Pulsed Reactor. It will increase the capabilities of Sandia's radiation effects program which examines radiation effects in materials and radiation damage in electronic components and circuits. The program also includes basic research in these areas.

The new reactor will be mounted on the same elevator pit assembly used by SPR inside the concrete hemisphere of Bldg. 6590 in Area V. For bursts, it will be raised out of the pit, pulsed, and lowered back into the shielded pit between reactor operations.

SPR-II differs from its predecessor primarily in its fuel composition and in its mechanical design. It will use a molybdenum-uranium 235 alloy as fuel—10 percent molybdenum by weight—instead of pure uranium 235 used by SPR.

Advantages of the molybdenum-uranium alloy are twofold:

First, it is stronger and can sustain temperatures approaching 1250°F.

Second, it is dimensionally stable at higher temperatures. Under certain conditions, uranium 235 expands in two directions and contracts in the other.

The mechanical design of SPR-II makes allowances for the rapid expansion (thermal shock) of the fuel by a separation of 20 mils between the sections of the fuel. This design innovation should increase the performance of SPR-II compared to SPR, since thermal shock was one of the limiting factors to SPR's capability.

The new fuel, now being cast at the AEC's Y-12 Oak Ridge facility, will be ion-plated with aluminum as is the SPR fuel. This ion plating, a process developed by Sandia, protects the fuel from oxidation and contains fission products inside the fuel blocks.

SPR creates neutron fluences as high as 2×10^{14} while SPR-II will be capable of producing neutron fluences up to 10^{15} . In addition, the experiment chamber of SPR-II will be 1½ inches in diameter compared to the ¾-inch pencil-sized "glory hole" of SPR.

Project engineer for SPR-II development is R. L. Coats of Reactor Development Division 5223. Nuclear portion of the design was performed by W. H. Schmidt while the mechanical portion was done by J. A. Reuscher and D. N. Cox, all of Division 5223.

Wide Variety of Problems for Part-Time Lab Oceanographer

You don't find many oceanographers in New Mexico.

D. Richard Anderson (1111) is primarily a polymer research chemist, but his background qualifies him to devote perhaps a fourth of his time to consulting on problems in oceanography. He also teaches an Out-of-Hours course and lectures on the subject before the USE (United Science and Engineering) groups.

He has been consulted on such things as what would happen if an orbiting SNAP power source aborted and landed in the ocean. The problems considered included the effect of water pressure, salt water corrosion, and currents.

Another oceanography problem dealt with the possibility of installing seismometers on the bottom of the ocean to detect earthquakes and large underground explosions.

During Sandia's participation in the search for the nuclear bomb missing off the coast of Spain, Dick was consulted. "If the bomb had broken up (which did not happen), traces of specific ions present in the weapon might have been found in certain sea life. This affinity for certain

elements is true of most organisms: humans concentrate iron; lobsters concentrate cobalt; crabs, copper; mollusks, nickel; and sea weed, iodine," Dick explains.

His knowledge of the sea and its inhabitants dates back to graduate school days at Oregon State University in Corvallis. In his part-time job with the Oceanography Department he was a deck hand on the "Acona," a 90-foot ocean-going research ship, and also on small inter-bay launches, helping to gather plankton, water, and bottom sediment samples, and to measure water and current flows.

"During those three years, I became extremely interested in the field," Dick says, "and ended up with a minor in oceanography." His PhD degree is in physical organic chemistry.

A recent seminar speaker at Sandia was one of Dick's classmates — Dr. Charles Osterberg, now a professor of oceanography. Six or seven years ago Oregon State's Oceanography Department consisted of one man and a borrowed rowboat, now it is the fourth largest facility of its

(Continued on Page Two)

SANDIA LAB NEWS



VOL. 19, NO. 1 JANUARY 13, 1967

SANDIA LABORATORIES

ALBUQUERQUE, NEW MEXICO
LIVERMORE, CALIFORNIA

OPERATED BY SANDIA CORPORATION FOR
THE U. S. ATOMIC ENERGY COMMISSION

For Retirement Plan

Variable Annuity Option Offered to Employees

A variable annuity option for the Sandia retirement plan will be explained to employees at a series of meetings to be held during the next two weeks. Attendance of employees will be scheduled by departments.

Representatives of Prudential Insurance Company of America, which administers Sandia's retirement plan, will present a comprehensive story of the variable annuity option and will answer questions. Prior to their attendance of one of the sessions employees will receive a booklet explaining the basic features of the plan.

After attending one of the sessions, employees will decide on an individual basis

whether or not to place a portion of their retirement accrual (25 percent or 50 percent) into the variable annuity form. Those who choose to have their benefits accrued in this manner will have a combined retirement income — part "fixed" and part that will vary according to the value of the common stocks selected for the plan by Prudential.

The variable annuity feature of the retirement plan was one of the items considered by the joint management and union committee which conducted an extensive study of the retirement plan recently. The variable annuity feature is similar to that which Prudential has offered its own employees in recent years. Similar plans are also offered by California Institute of Technology, and Argonne National Laboratory.

AEC Honors to General Crowson

Brig. Gen. Delmar L. Crowson, Director of the Atomic Energy Commission's Division of Military Application, was one of three members of the AEC's headquarters staff presented with the AEC's Distinguished Service Award.



The award, the highest honor the AEC can bestow on its employees, was presented recently at ceremonies at Commission headquarters in Germantown, Md., to Brig. Gen. Crowson; Edward J. Bloch, Deputy General Manager; and George F. Quinn, Assistant General Manager for Plans and Production.

The citation to Brig. Gen. Crowson was "in recognition of his outstanding contributions to the nuclear weapons program of the United States . . . technical and managerial leadership in carrying out the exacting programs which include long-range planning, research, development, testing, production, and storage of nuclear weapons."

Sandians Participating In Business Seminar At SUB Next Month

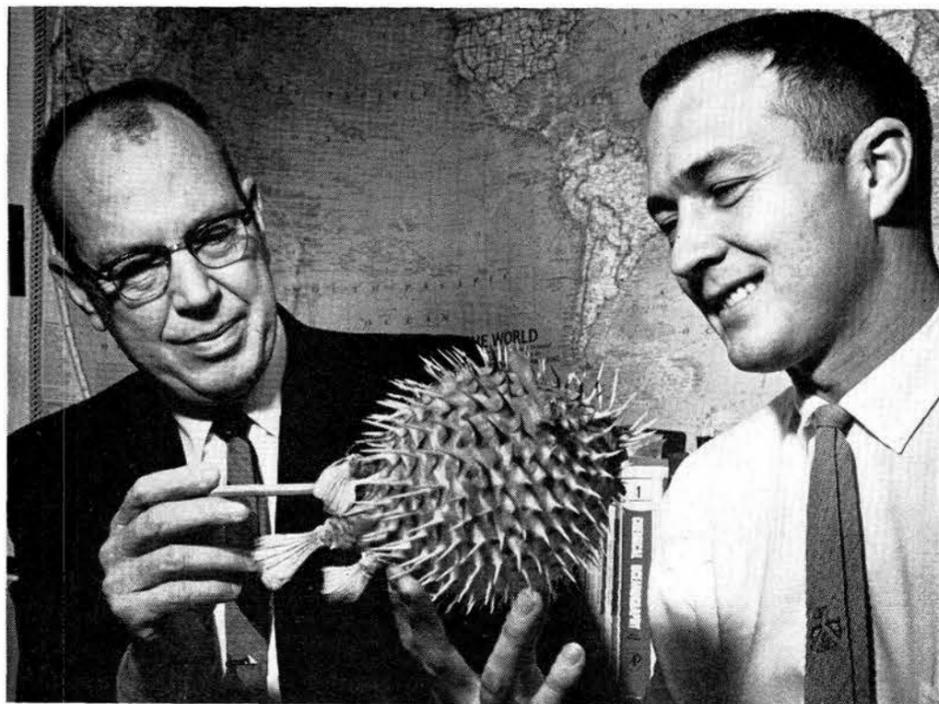
A business seminar on "The Challenge of Change—with Emphasis on the Expanding Scope of Accounting in the Educational and Management Reporting Areas" will be held at the Student Union Ballroom of the University of New Mexico on Feb. 3.

G. T. Kupper (4135) will be master of ceremonies.

During the one-day program, R. G. Luckey (4100) will present industry's concept of "Educational Needs of the Accounting Profession" as part of a morning panel discussion. Robert B. Lewis, deputy controller, Accounting and Finance Policy, Department of Defense, Washington, D.C., will be the luncheon speaker and Prof. Norton M. Bedford, University of Illinois, is scheduled to deliver the keynote address.

An afternoon panel discussion will be devoted to the subject "Management Reporting Concepts."

Thirty-six Sandians are members of the National Association of Accountants, one of the seminar co-sponsors.



A PORCUPINE PUFFER FISH holds the attention of Charles Osterberg (left), professor of oceanography at Oregon State University, and D. Richard Anderson (1111), who devotes part time to problems of oceanographic nature.

Editorial Comment

At one time or another most of us have been annoyed by the traffic conditions on Sandia Base.

The minutes seem to drag by as we wait to enter the traffic flow or as we watch an almost endless stream of cars cross the intersection in front of us.

However, when we consider the number of cars involved, it is almost incredible that the traffic moves at all.

By actual count (taken by the Provost Marshal's office last May), 45,313 motor vehicles passed through the Sandia Base gates in a 24-hour period.

This doesn't mean that there were more than 45,000 cars on the Base, for vehicles were counted both as they entered and as they left and some of them entered and left several times.

But even with the staggered work schedules (military 7:30-4:30, AEC 7:45-4:45, Sandia 8-5) a problem is created just by the sheer number of moving vehicles—Sandia employees drive about 4000 cars on and off the Base each day.

The problem is compounded by the drivers who cut in and out of traffic lanes, who tailgate, who turn without signalling, and who drive without regard for others.

In a letter to Sandia, Col. D. E. Glinski, Base Commander, noted that there were 199 motor vehicle accidents on Sandia Base in 1966. He added, "All of the accidents could have been prevented through more careful consideration and application of safe driving techniques by the offending drivers."

With the volume of traffic on the Base, just three gates for all of these cars to funnel through, and the inevitable congestion at the close of the workday, it is vital that we stay alert, be patient and courteous, and drive defensively.

Continued from Page One . . .

Sandia Oceanographer

type in the U.S. This is typical of the growing interest in oceanography.

"The ocean is truly one of our frontiers of the future," Dick notes. "It is in the state of exploration that our continent was at the time the first colonists arrived. We are still hunters in the sea rather than agriculturists. We are starting to get oil from beneath the continental shelf, and we know there are great deposits of minerals, but many projects are not economically feasible with our present technology."

One problem is the difficulty of obtaining information about the ocean and its inhabitants. Astronaut Scott Carpenter felt that his stay for several weeks in Sea Lab II, 205 feet below the surface, was more hazardous and taxing than a trip in space.

"We have come a long way in methods of obtaining samples and cores, in dredging, taking pictures, and making soundings, but until someone can come up with a gill that will enable man to go to lower

depths, we will be restricted to the edge of the continental shelf — or about 1000 feet. Eventually, we'll be thinking of the oceans in a defense sense and as sources for food," Dick says.

In his own effort to inform others about oceanography, Dick has taught three Sandia Out-of-Hours courses on the subject. His "students" have come from throughout the Laboratory. "Some are merely curious, others are working on problems that may have applications," he says. The course delves into the chemistry and physics of the oceans as well as the life in the oceans.

The USE lectures he gives touch on topography from shoreline to deep ocean and trenches; waves and currents which control actions of many life forms; chemistry and physics; oceanic life; and effects of pressure on men and equipment, with some conjecture into future problems of eating, speech, and chemistry while submerged in the deeps.

Even Dick's leisure time activities are directed toward this special interest. He helped teach a SCUBA diving class in Albuquerque; he spent vacations in Guaymas, Mexico, spearfishing and skin diving; and he has an unusual bit of research in mind, as soon as the weather turns warm. He plans to study a private spring-fed lake near Santa Rosa in the hope of determining the underground water source for numerous lakes in that area. He will take water samples at regular periods and will study fish and plant life present in the lake. All of which shows that a determined oceanographer can have fun even if there isn't a large body of water close at hand.

Welcome Newcomers

Dec. 19 - Jan. 6

Albuquerque	
James W. Barnett	4114
E. Claire Bensinger	3421
Ralph C. Bonner	4122
John J. Brennan	3415
Karen M. Cohen	3126
LaRue B. Dignan	4312
Milton George, Jr.	4574
Martin Gonzales, Jr.	4574
Glen L. Heston	4574
Linda B. Knighton	3126
John H. Patterson	4253
James R. Yoder	2432
Arizona	
*Jerald K. McDowell, Phoenix	4234
California	
Lawrence H. Howes, Santa Barbara	1114
District of Columbia	
Diwiatt E. Barker, Washington	4632
Iowa	
Larry R. Rollstin	9324
Illinois	
Frank D. Safarik, Chicago	1431
Frank Tegel, Bensenville	1433
Douglas L. Weaver, Chillihothe	1433
West Virginia	
Kenneth B. Wischmann, South Charleston	1111

*Denotes rehire.



Connie Rey (3151)

Take A Memo, Please

Take your good safety habits home with you. They will protect you there as well as on the job.



NEW MEXICO SENATORS Clinton P. Anderson and Joseph M. Montoya visited Sandia Laboratory last week for a round of briefings. They are discussing a model of the Vela satellites with John A. Hornbeck, Sandia Corporation President, and R. B. Powell, Vice President 3000.

A Concentrated Effort

Clean-Out Day Scheduled Jan. 18; All Sandia Files Will Be Purged

"Clean-Out Day" at Sandia Laboratory is next Wednesday, Jan. 18. The day will be devoted to a concentrated purge of all files, records, drawings, reference materials, books, and periodicals. All unnecessary items will be removed, boxed, and sent to storage or disposal areas.

In announcing the activity, President John A. Hornbeck said:

"The volume of record and reference material that we maintain is staggering and expensive. Please work to reduce this load."

The Clean-Out is part of a nationwide program, directed by President Johnson and the General Manager of the Atomic Energy Commission, aimed at disposing of all nonessential records and materials that are currently occupying expensive offices and work areas.

In directing employees to strip files of all unnecessary material Mr. Hornbeck said, "It is important to note that this campaign focuses not only on the normal office records, but also on publications and reference materials such as books, periodicals, technical reports, and other materials whose volume may equal or even exceed records holdings."

"I am convinced that Sandia can surpass the campaign goal of a 20 percent reduction in its volume of records and reference materials. . . . I urge you to give your full support to carrying out the detailed instructions."

The instructions, distributed this week, outline the procedures to be followed. They emphasize that only records for day-to-day operation are to be retained in office files. Included in the purge are classified and unclassified records of every type—books, periodicals, catalogs, manuals, drawings, directives, correspondence, reports, working paper, film, tape, cards, and related materials.

The instructions outline the steps to be followed:

All departments will be provided with storage boxes in which records and related materials will be placed for destruction,

for transfer to Central Technical Files, for transfer to Records Depository, or for transfer to the Technical Library.

All filed records and materials will be reviewed by supervision and staff to determine which records are to be removed from the files.

All materials designated for destruction will be disposed of in routine fashion. Examples of this material include Management News Briefs, Employee Bulletins, copies of Material Requisitions, Purchasing Papers and Receiving Reports, and correspondence.

Records to be transferred to Central Technical Files will be so marked. These include technical and scientific correspondence, minutes of meetings, informal reports, and related materials.

Key men in the campaign will be department representatives, appointed to inspect the purged material and arrange for transportation. Area III representatives will call 264-1872 and Area V representatives will call 264-1607 for pickup of material. Pickups within Area I can be arranged by calling 264-4563.

Department representatives will also prepare a report reflecting the amount of material removed from files and the amount of filing equipment retained.

The purge should free large numbers of filing and storage cabinets in the office areas. Economical use of filing equipment is one of the primary goals of the campaign. The department representative will call 264-3854 or 264-2942 to arrange for transfer of excess equipment.

Jan. 18 will be the big day of the campaign with all organizations performing the bulk of the activity on this date; however, the campaign will continue through the balance of the month. Results will be reported to the AEC Jan. 31.

The clean-out effort is being coordinated by M. K. Linn, director of Information 3400, assisted by Records Management Division 3428, Administrative Assistant Department 3450, and designated representatives from each department.

At Livermore Laboratory, there will be certain procedural differences. Designated representatives should contact D. C. Held (8213), ext. 2274, for instructions.

Events Calendar

- Jan. 15—Fellini's "I Vittelioni," followed by discussion. Newman Center, 1815 Las Lomas NE, admission 50 cents at door, 7:30 p.m.
- Jan. 16—Al Hirt musical show. Civic Auditorium.
- Jan. 19-22, 27-29—"The Rainmaker," Old Town Studio, 1208 Rio Grande NW, for reservations call 242-4602.
- Jan. 23—Feast Day and Buffalo Dance, San Ildefonso.
- Jan. 28—Jaycees Invitational Indoor Track Meet, Tingley Coliseum.

Sandia Authors

J. M. Hueter (2563), "Creativity—Choice or Chance?" October issue, THE JOURNAL OF INDUSTRIAL ENGINEERING.

F. L. Vook (5211) and Ruth E. Whan (on leave), "Infrared Studies of Defect Production in n-Type Si: Irradiation Temperature Dependence," January issue, PHYSICAL REVIEW.

C. W. Harrison (1425), "On the Transient Response of an Infinite Cylindrical Antenna," January 1967 issue, IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION.

SANDIA LAB NEWS



SANDIA LABORATORIES
ALBUQUERQUE, NEW MEXICO
LIVERMORE, CALIFORNIA

Operated for the United States Atomic Energy Commission by Sandia Corporation

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Livermore Notes

Tickets are on sale for a new series of foreign and American films sponsored by the Lawrence Radiation Laboratory Recreation Association Film Society. The series is available to LRL or Sandia employees and members of their immediate families.

Twelve films will be presented on alternate Thursdays, 8 p.m., beginning Jan. 19 in the LRL Auditorium, Bldg. 111. All foreign language films have English sub-titles, and selected short subjects are usually shown with each feature.

B. S. Biggs, vice president 8000, was guest speaker at the regular luncheon meeting of the Rotary Club in Sunnyvale, on Jan. 3. His presentation was entitled "Sandia's History and Role in the Atomic Weapons Program" and included a showing of the film, "The Sandia Story."

"Nite Life"—a set of three ticket books for \$5 provides San Francisco and Peninsula dining, as well as night life and sports activities in both areas. The ticket books are valid until Jan. 2, 1968, and are available from Employee Benefits Division 8214.

"Variations on a Theme: 50 Years of Graphic Arts in America" is currently being featured at the M. H. DeYoung Memorial Museum, Golden Gate Park, San Francisco, through Jan. 29. Also at the museum, from Jan. 10 to Feb. 19, a Japan Art Festival will emphasize contemporary achievements of the Japanese people in painting, sculpture, ceramics, weaving, and other crafts.

Eugene R. Benner, an engineer in Project Engineering Division 8154, was recently ordained Elder of the Reorganized Church of Jesus Christ of Latter Day Saints (RLDS). Prior to his ordination, he held the office of priest in the Aaronic Priesthood.

Mike Gregory (8112) shot a net low score of 65 to win the first place trophy in the Sandia Employee Golf Club tournament on Dec. 17. The straight handicap tournament was played at the Springtown Golf Course.

Curt Franklin (8118) and Joe Genoni (8235) tied for second and third place awards with scores of 66. A special award was won by John Turk (8252) for coming closest to the pin at the No. 6 hole.

The next SEGC tournament will be held at the Silver Pines Golf Course, Newark, Jan. 28. Those interested should contact Elmer Smith (8118), ext. 2738; or Joe Genoni, ext. 2433, before Jan. 24.

Current membership identification cards for Disneyland are now available to Sandians and their immediate families. The card entitles members to purchase admission ticket books at considerable savings.

Those who return the control file stub attached to the card are eligible for selection as one of the three "Families of the Month" and a free royal weekend visit to Disneyland.

The membership cards may be obtained from division secretaries.

Dr. Teller to Participate in Lecture Series at Berkeley

Dr. Edward Teller, newly appointed Associate Director for Physics at Livermore's Lawrence Radiation Laboratory, will be among the internationally known physicists speaking in an evening lecture series at the University of California at Berkeley.

The series, "Great Men of Physics," will include discussions on great scientists of the past and the effect of their work on today's world.

Dr. Teller, a University of California professor-at-large and director of LRL from 1958 to 1960, will speak March 2 on Niels Bohr. Other speakers and their topics are: Dr. Emilio Segre, "Galileo," Jan. 18; Dr. Leonard Schiff, "Newton, Einstein, and Gravitation," Feb. 8; and Dr. Joseph Kaplan, "Faraday and Space," Feb. 21.

An optional evening course to supplement the lectures, conducted by LRL physicist Shalom Fisher, began Jan. 3 and meets from 7 to 9 p.m. Tuesdays. Tuition fee for the course is \$35 and includes admission to the lecture series. Series admission for those not taking the course is \$10 for the public and \$8 for students.

Further information can be obtained from the University of California's Extension Office, 845-6000, ext. 4141.

1967 RLRA Activity Cards Are on Sale

The 1967 activity cards for the Lawrence Radiation Laboratory Recreation Association (RLRA) are now available and may be obtained from Jim Henderson in Employee Benefits Division 8214.

Sandians, as well as LRL employees, are eligible to join the RLRA and may enroll themselves and their families by paying the \$1 annual dues.

Members may participate in over 30 RLRA-sponsored activities in the local area. A list of the activities, including persons to contact for additional information, has been posted on Sandia bulletin boards.

Sympathy

To Joyce Blanchard (8211) for the death of her mother in Sacramento, Dec. 25.

To Rex Richardson (8244) for the death of his brother-in-law in El Cerrito, Dec. 21.

Congratulations

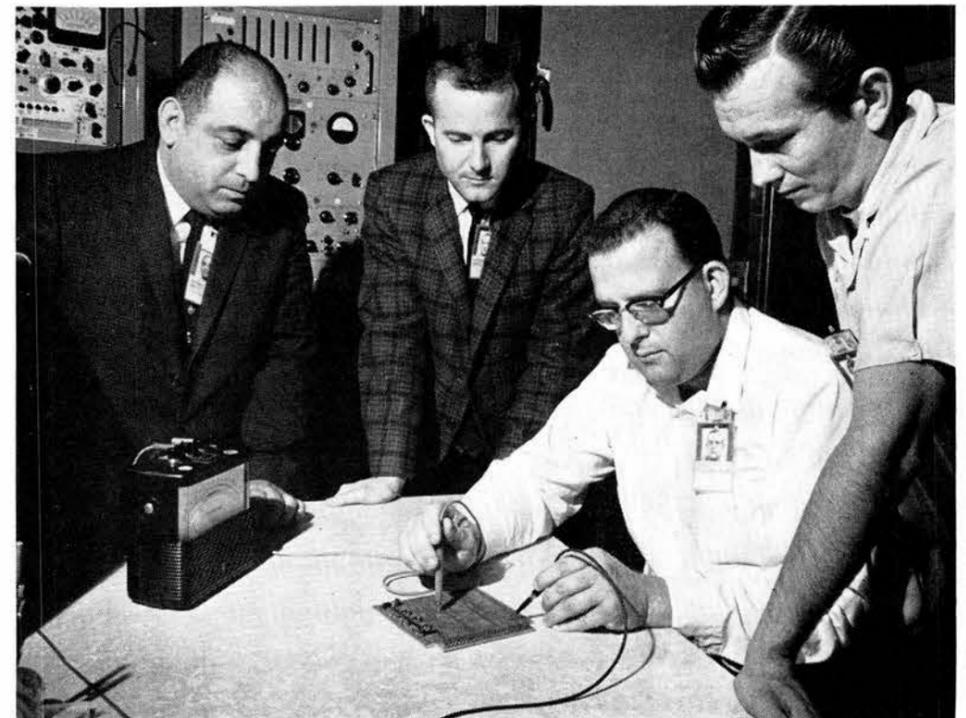
Mr. and Mrs. Duncan Tanner (8126), a daughter, Diane Margaret, Dec. 7.

Welcome Newcomers

Dec. 15 - Jan. 3

California
 Donald J. Holve, Lindsay8131
 *Robert K. Pierce, San Lorenzo8118
 *Michael R. Posehn, Berkeley8146
 Mary E. Sayles, Vallejo8235
 *Denotes rehire

LIVERMORE NEWS



PERFORMING AN ELECTRICAL INSPECTION on a four-layer circuit board is Ted Koch (8226-2). Observing (l to r) are process writer Arnold Andrade (8223-5), design engineer Dennis Rathbun (8118), and draftsman Bill Pritchard (8252-3).

New Technique Used

Stacked Printed Circuits Meet Design Demands of Sandia Engineers

A color technique developed at Livermore Laboratory helps make circuits more compact for Sandia's engineers.

The color is used in preparing a four-color drawing of multilayer (stacked) printed circuit boards. Rather than using four separate drawings, Gene Lopp and Bill Pritchard (both 8252-3) developed the technique of having one drawing using a different color for each of the layers of a four-stacked board.

The stacking is also more effective in that both sides of two boards are used to provide four printed circuit surfaces. Thus more electrical components can be used while requiring less space in a system.

Take an example. Dennis Rathbun (8118) has a circuit requirement which will use 124 miniaturized flat-packs, rectifiers, and resistors. It will take 780 mounting and interconnecting holes to install the components and provide electrical connections to them. But—the package must fit into a space less than six inches square and .065 of an inch thick.

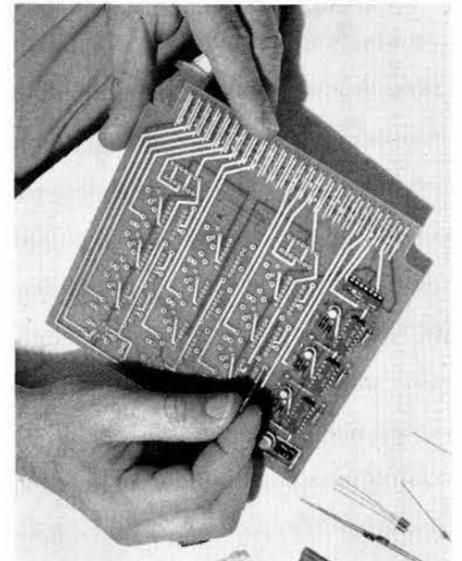
The solution? Make a four-layer printed circuit board. Applying the Lopp and Pritchard technique, the engineer and draftsmen prepare a drawing of the circuit. One drawing is done in four colors — one color for each layer of the printed circuit board.

A pattern is now needed for each of the four layers of the printed circuit. To do this, numerical values are given to each line and hole on the drawing by means of a digitizing machine. Data from the digitizer is processed by a computer which prepares a perforated tape which will guide the drawing, milling, and drilling machines in their precision production operations.

Guided by the mathematical instructions on the perforated tape, a machine draws (with a beam of light) four patterns on photographic film. The machine is accurate to 1/1000 of an inch.

Using only part of the perforated tape's program, another machine drills nine holes in the border area of two eight-inch-square by 1/32-inch thick boards. (These holes are used later in the process to assure that one layer of the printed circuit will exactly match to a second one, etc.)

Once the board material has been cleaned and sprayed with a photosensitive material, film patterns two and three are exposed and developed on the bottom of one board and the top of the other board. They are dipped into a chemical solution which removes the copper from all areas of the board other than those made by the pattern (outer sides of the board are not affected by the chemical reaction). The boards are matched and bonded to-



INSTALLATION OF A MINIATURIZED COMPONENT (a resistor) in a four-layer printed circuit board is accomplished by a technician from the Electronic Fabrication Section (8223-3).

gether under the heat and pressure of a laminating press.

Holes for mounting components and interconnecting circuits are now made in the bonded circuit board by means of a numerically controlled drilling machine. The drilled holes are electroplated with a copper solution which provides the necessary conductive material to join the circuits of the two boards. A return to the fabrication lab and a repeat of the photo and chemical process for pattern one and four prepares the board for the numerically controlled trimming to the required six-inch-square package.

An electrical inspection assures that the printed circuit board has continuity of all circuits; that the copper plated holes are free from imperfections which could interrupt current flow; and that the insulation characteristics of the glass-epoxy remain effective. A probe, designed by Ralph Freeman (8226-2), has proved useful for this phase of the inspection procedure. It applies only one ampere of current when in contact with the circuit board thus avoiding any electrical damage to the board.

Four-layer printed circuit boards may not solve every engineer's electrical design problem. If not, maybe a 12-layer board will do it.

Livermore Laboratory personnel have determined that such a board is possible.



CHRISTMAS DISPLAY at Livermore Laboratory this year featured the traditional luminarias and a mission church scene. Luminarias were introduced in the Livermore area by Sandia in 1959. Technical illustrator John Daniel (8233) created the "stained glass" windows by arranging strips of colored cellophane on plastic panels, and Plant Maintenance Division 8222 erected the display south of Bldg. 911.

Sandia Lab Skiers Offer Insights on Ski Safety, Equipment, and Instruction



Hup Wallis (7531)
—promote skier education—

Probably as many as 10 percent of Sandia Laboratory's employees ski, anticipate taking up the sport, or are the parents of children who ski. Placed ski pole to ski pole, the Sandians would form a lengthy lift line at any area.

Recognizing the large number of Sandia skiers, Sandia's Safety Education Division 3212 purchased a new film, "Rules of the Slope," which is already in great demand. The 20-minute movie demonstrates the nine points of the national skier's courtesy code—a code which is the result of about five years of study and cooperation between the U. S. Ski Association, the National Ski Patrol System, the National Ski Areas Association, and the Professional Ski Instructors of America. The nine points emphasize courtesies on the ski slopes along with safety practices.

Background information on the code is included in an article, "What It Takes to Ski," in the Winter 1966 issue of FAMILY SAFETY, which has been mailed to each employee's home.

Some large posters and several hundred pamphlets describing the courtesy code have been ordered by the local chapter of the National Ski Patrol. H. S. (Hup) Wallis (7531), leader of the Sandia Peak Ski Patrol, heartily endorses the code, and feels that it is of utmost importance for all skiers to be well acquainted with its points of safety and courtesy.

The Sandia Peak Ski Patrol has a roster of 40-50 experienced skiers trained in first aid; in addition, junior ski patrolmen assist on busy week ends. "The patrol's mission is to promote safe and sane skiing as well as to carry out rescue operations," Hup says. "From what we see on the hill, there is a definite need for skier education. For example, you see signs reading 'Fill Your Sitzmark,' but 9 out of 10 skiers don't know that a 'sitzmark' is the hole in the snow made when you fall."

Safety Survey

This is the 25th year that H. A. (Hank) Tendall (1544) has skied—and his number of ski-days per year is pretty high. Over New Year's, when he purchased a lift ticket at a northern New Mexico resort, Hank was asked a number of questions as part of a survey conducted by the National Ski Safety Research Foundation and supported by the U. S. Public Health Service. The questions were related to his ski-ability, accident record, type of equipment, etc., and his bindings were checked for correct setting (to release in case of a spill). The information obtained from Hank and other skiers across the country will help to give meaning to ski accident statistics.

Hank's only serious accident occurred 8 or 10 years ago when he pulled a heel tendon. "Chances are that with the modern heel-release-type bindings I wouldn't be injured in such a fall, but even though almost all skiers use some type of release binding, a high percentage of the bindings are improperly adjusted," he says.

"Any type of ski education helps make participants more conscious of the cause of accidents, but you have to face the fact that skiing involves some risk. There are so many factors you can't control. If you are halfway down a trail and suddenly the light becomes flat or the surface is icy, you still must continue.

"Beginning skiers today have a tremendous advantage over novices of even five years ago. Methods of instruction have become generally standardized, making it possible to take lessons at different areas without having to start over each time."

Ski Instruction

The importance of taking lessons is stressed by Richard C. Claassen (5100), who is starting his third year as a weekend instructor at Sandia Peak. "Many beginners think they should ski awhile on their own and then take lessons," Dick says. "I believe they should take lessons the first time they put on skis. Instructors know precisely how to help the beginner get started, and lessons should be continued until he knows how to control his speed."

Dick remembers the leather harnesses on his first pair of skis, back in 1935. "Equipment has improved considerably," he says, "but I would like to caution husbands who buy and adjust safety bindings for their wives—remember that women's bones are weaker and their bindings require a lighter setting.

"Courtesy is important on the ski slope.



Hank Tendall (1544)
—many uncontrollable factors—



Dick Claassen (5200)
—take lessons right away—



Marian Clark (3126/9222)
—proper ski equipment helps—

The uphill skier is responsible for not skiing into those on the trail below and this requires special care when there are children in the area since they can dart about very quickly."

Beginning Skiers

A few thoughts on ski safety are voiced by Marian Clark (3126/9222), who is secretary of the Coronado Ski Club and is a relative newcomer to the ski world. "I remember the first time I was on skis. It was in 1960 and I was a student at UNM. I spent the day on the lower beginner's slope, but in the late afternoon my friends, all of whom skied well, said, 'Come on up the main slope, we'll help you come down!' I wasn't a bit scared then, but when I got near the bottom of the run, I suffered a bad sprain in a fall. I saved the crutches as a reminder.

"The next year I took lessons for a week and it made such a difference, but I was still cautious after my early accident," she recalls. This year Marian and her husband are both taking ski lessons.

Marian believes that proper equipment, properly adjusted, is very important especially to a beginner. "If you have to rent equipment, try to do it at a time when there is more chance for individual attention," she says.

"Unfortunately," she adds, "week-end crowds are too big for most beginner's areas. It's dangerous."

While thrilling to some and dangerous to others, skiing is here to stay. An encouraging note is that once the pleasure skier attains intermediate ability, there is a sharp drop in incidence of accidents (from 10 accidents to 4 per 1000 ski man-days). Anyone for the slogan, "Think Snow, Ski More"?

No Small Undertaking

Walt Scott Helping Arrange Jaycee Invitational Track Meet

Walt Scott (3465) and the 300 other members of the Albuquerque Jaycees are a little harassed these days. In just two weeks the Jaycees will open their Fourth Annual Invitational Track and Field Meet in Albuquerque and this is no small undertaking.

Walt is serving on the nine-man Jaycee committee responsible for the track meet, which means he is averaging about 30 hours of off-hours time per week on the project. Walt is responsible for arranging women's entries and coordinating all competition arrangements, travel, accommodations, and details of the program. With 40 top women athletes from throughout the United States scheduled to participate, this adds up to a lot of correspondence, telephone calls, and headaches.

In addition, he helps the other Jaycees on the committee when he is needed and takes time to handle other Jaycee business—he's chairman of the "Jaycees in Action" committee, provides photographs for Jaycee publicity purposes, and works on a current Jaycee campaign to raise \$152,000 for the second Albuquerque Boy's Club. (Jaycees were instrumental in getting the first Albuquerque Boy's Club built several years ago.)

Jaycees are conducting about 25 projects at any given time, Walt says. These are roughly divided into money-raising events such as the track meet and the "Golden Gloves" competition or money-spending youth welfare projects such as driver education, drop-out prevention educational efforts, sponsoring youth athletic groups, and conducting physical fitness programs.

The annual track meet is a special effort. In past years, the Albuquerque competition has brought top athletes to perform for a local audience, brought the sports spotlight to the city via national televising of the event and articles in national mag-

V. E. Arnold Is New ASTM District Vice Chairman

Vernon E. Arnold (2564) is currently serving a two-year term as vice chairman of the Rocky Mountain District of the American Society for Testing and Materials.



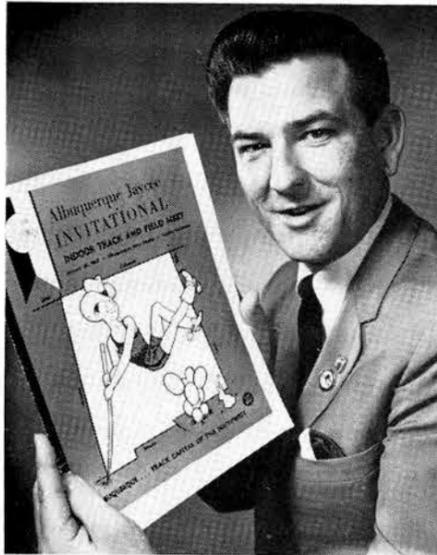
The technical society aims at furthering the use of standards and standardization. In accomplishing this, ASTM has published a 32-volume set of national standards which is widely accepted throughout industry.

There are 312 members in the Rocky Mountain District and at least one meeting a year is held plus a symposium. In 1962 Mr. Arnold was chairman of the committee which made arrangements for a symposium on Dynamic Behavior of Materials held in Albuquerque. He hopes to schedule another such symposium here in 1968 although no topic has been chosen as yet. "The topics are hard to pick," he says. "The subject matter must be widespread in interest yet not be too broad in form."

Mr. Arnold has been a member of ASTM for 13 years and has served three terms on the district's governing council. He also has been chairman of the student award membership committee. Through this program students pursuing courses related to the study of properties or science of materials are given ASTM memberships paid for jointly by ASTM and industry.

"There are 14 universities in this region that are allotted the memberships on the basis of size of their engineering schools. During several years of soliciting funds from industry and notifying the schools and students, I must have written 500 letters," Mr. Arnold says. "Hopefully, being district vice chairman won't require that much work."

The ASTM district chairman is R. L. Schuster, Department of Civil Engineering, University of Colorado, Boulder.



WALT SCOTT (3465) displays program cover for the Albuquerque Jaycee Invitational Track and Field Meet scheduled Jan. 28. Walt is serving on the Jaycee committee planning and arranging the national event.

azines, and brought recognition to the local Jaycee organization.

"We were judged the outstanding group in the nation a couple of years ago," Walt says.

Tickets for the track meet are now available to Sandians at the Coronado Club. A section of Tingley Coliseum has been tentatively reserved for Sandians. The reserved seat tickets for Section M cost \$3 and will remain on sale at the Coronado Club office through Jan. 24.

Other Sandians active in the Jaycee organization include J. H. Barnette (1333), R. G. Dosch (1121), G. W. Haver, Jr. (5633), J. C. Pelletier (2433), and L. J. Seligman (9213).

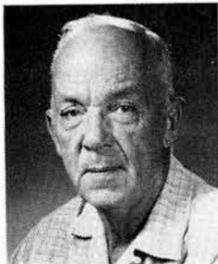
"We can always use more help," Walt says. "Any young man interested in participating in some of the most exciting events in Albuquerque can contact any Jaycee for membership information."

Sandia Speakers

M. E. Daniel and C. H. Purdue (2442), "Computer Model Specifications for Non-linear Devices," 1967 Annual Reliability Symposium, Jan. 10-12, Washington, D.C.
 W. C. Lyons (1116), "Dynamic Buckling of Cylindrical Shells from Radial Impulse," graduate students and faculty, University of Houston, Dec. 15.
 A. C. Littleford (2442), "Development of Semiconductor Models for Application in Computer Circuit Analysis Programs," IEEE Student Branch, University of Oklahoma, Dec. 14, Norman, Okla.

Sympathy

To Scottye Wallace (4333-1) for the death of her father in Silver City, Dec. 30.
 To R. C. Fletcher (5000) for the death of his mother in Provo, Utah, Jan. 2.
 To Doyle T. Clark (4513-1) for the death of his mother in Lufkin, Texas, Jan. 2.



L. B. Saylor



Mrs. Hahn



M. D. Garcia

Geraldine A. Hahn, an administrative clerk in Sandia's West Coast Area Office, Division 2431, died suddenly Dec. 30. She was 52.

She came to work at Sandia Laboratory in October 1950 and transferred to the West Coast office in July 1957.

She is survived by her husband, two sons, one daughter, and 14 grandchildren.

Luther B. Saylor, a retired Sandia employee, died Jan. 2 after an illness. He was 76.

He started with Sandia in December 1948 and worked as a model and instrument maker in the Development Shops until his retirement in January 1959.

Survivors include two daughters, five grandchildren, and two great-grandchildren.

Manuel D. Garcia, a retired Sandia employee, died Jan. 7. He was 82.

He worked as a janitor in Plant Services Department for six years prior to his retirement in May 1954.

Survivors include two daughters, a step-daughter, and eight grandchildren.

Supervisory Appointment



CARL E. SMITH to supervisor of Diagnostic Aircraft Section 7255-2, effective Dec. 16.

Carl joined Sandia in September 1959 in quality assurance where he was responsible for system analysis of stockpile data for two years. In January 1962 he transferred to field test and was assigned to Nevada Test Site where he was responsible for hydrodynamic measurements of underground activities. One year later he was granted a leave of absence for six months. He returned to the Laboratory in July 1963 in the Nuclear Test Department. He has also served as test project engineer and instrumentation engineer on practice drop exercises for the past three years.

Carl received his BS degree in physics from California State Polytechnic College in August 1959. Since then he has done some graduate work in physics and mathematics at the University of New Mexico and Arizona State University.

Out-of-Hours Enrollment Deadline Jan. 20; New Classes Are Offered

Spring Semester for the Sandia Laboratory Out-of-Hours Education Program begins Feb. 6 with a total of 81 courses offered. Enrollment deadline for the classes is Jan. 20, according to Employee Training and Education Division 3132 which administers the program. Some 1500 are expected to enroll in the job-related courses.

An Employee Bulletin listing classroom locations will be distributed about Jan. 26. A supplement to the Out-of-Hours catalog listing the schedule of classes was distributed last week. The booklet also contained enrollment cards. The cards, signed by supervisors, should be sent to Division 3132 by Jan. 20.

Textbooks will be issued the week of Jan. 30. Each enrollee will receive an IBM card which will serve as a textbook requisition card and notification of enrollment.

New courses offered this semester include:

Survey of Physical Chemistry, J. G. Eberhart (1123), instructor; Intermediate Computer Application (IBM 7090-CDC 3600), A. J. Arenholz (9421); Direct Conversion of Heat to Electricity, E. L. Burgess (9332); Matrix Theory and Applications for Engineers, M. E. Daniel (2442).

Vectorial Mechanics, M. M. Sluyter (9321); Modern Structural Analysis, F. J. Perdeauville (1541), S. W. Key (1116), and W. A. Sebrell (1542); Mechanics of Laminar Viscous Flow, L. D. Tyler (9321); Introduction to Meteorology, Don Mattox (1123).

Engineering Astronomy, G. W. Hughes (7224); Governmental and Industrial Procurement, R. T. G. Lassiter (4382); and Introduction to Numerical Analysis, L. F. Shampine (5262).

Service Awards

15 Years



D. S. Cone
3211



F. J. Conrad
1121



J. C. DeBaca
7321



J. F. Dusek
2526



J. J. Flanagan
2212



H. T. Flowers
4518



Candelario Garcia
4212



D. E. Goodrich
2411



Elzie Greene
2112



W. A. Hansen
2213



E. W. Harris
3465



E. J. Hartenberger
4575



L. L. Hofer
2151



Evelyn Hughey
4151



C. E. Jordan
3243



Roma Kessler
2125



A. C. Lamb
7261



W. O. Lerke
4511



G. H. Lester
4511



J. E. O'Connor
4623



Joseph Paruta
4516



J. W. Reynolds
4312



J. K. Rutledge
2551



G. O. Thorne
3152



J. C. Torres
3242



L. D. Treadwell
1512



R. D. Wehrle
1323

10 Years

Jan. 13-26

Promotions

Edgar E. Downing (4542) to Staff Associate, Technical
 Mike C. Gruber (7253) to Staff Associate, Technical
 Dean H. Cranston (2213) to Staff Assistant, Drafting
 W. Winn Erdman, Jr. (2213) to Staff Assistant, Drafting
 Glenn B. Baker (4212) to Toolkeeper
 William C. Iorg (4212) to Toolkeeper
 Amador B. Lovato (4212) to Toolkeeper
 Alexander Trujillo (4212) to Toolkeeper
 George R. Edgerly (4233) to Technician
 Joseph H. Valdez, Jr. (4631) to Technician
 Juan J. Armijo, Jr. (3415) to Mail Clerk
 Phillip Watterberg (3415) to Mail Clerk
 Caroline A. Spatz (3126) to Secretarial Typist
 Rosa L. Cata (4623) to Record Clerk
 Richard L. Miller, Jr. (2232) to Microreproduction Equipment Operator
 James L. Duran (3415) to Mail Clerk
 Irene R. McGrew (9414) to Data Processing Clerk
 Euliojo G. Sanchez (9411) to Computer Facility Operator
 Edward M. Gullick (4573) to Order Analyst
 Donald R. Giusti (8245) to Shipping and Receiving Clerk
 Louise E. Wimbrough (8235) to Typist Clerk
 Jon J. Pallitto (8235) to Messenger
 Dorothy J. Clark (8235) to Document Clerk
 Robert G. Moitso (8145) to Computer Operator
 Vernon R. Ivins (8223) to Shop Clerk
 Mary H. Hall (7261) to Meteorological Assistant
 Hilario Garcia (4212) to Toolkeeper
 Honorato B. Sanchez (4212) to Toolkeeper
 Henry B. Williams (4212) to Toolkeeper
 Procopio Lopez (4212) to Toolkeeper
 Orval W. Wallen (8244) to Staff Assistant, Administrative
 Emery A. Postenrieder (3122) to Staff Member, Administrative
 Frieda Salazar (3151) to Staff Assistant, Administrative
 Neil B. Gholson (9413) to Staff Assistant, Administrative
 Juan R. Marquez (4518) to Laborer
 Burnest Benjamin (4233) to Wireman
 Frank C. Cabasier (4511) to Helper
 Henry C. Sisneros (4511) to Helper
 Pablo L. Baca (4624) to Packer
 Frank D. Chavez (4234) to Layout Technician
 James M. Alviso (8222) to Laborer
 Peggy L. Black (3126) to Typist Clerk
 Julianita Gonzales (3126) to Stenographer Clerk
 Consuelo S. Baca (4613) to Typist Clerk

F. G. Shaw 2232, Bennie Longfellow 4224, R. M. Rayner 1112, C. L. Shaw 4254, Loyce M. Gambrel 3131, Lawrence Metyer 4574, D. A. Scranton 1411, Virginia J. Miller 4233, R. R. Grandstaff 2234.
 M. L. Coon 4113, Lucille R. Montoya 7521, A. E. No 2211, M. R. Chavez, 4573, Eleanor A. Stutts 6010, K. A. Bixler 9425, and G. R. Troyer 2222.

Congratulations

Mr. and Mrs. Ivars Gals (7336), a son, Eric, Dec. 22.

Mr. and Mrs. Dick Holman (2522), a son, Kelly Randolph, Dec. 29.

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JANUARY 13, 1967

SANDIA LAB NEWS

Kajeane R. Stover (3126) to Secretarial Stenographer
 Barbara R. Sava (3126) to Secretarial Typist
 William M. Rego (8245) to Stockkeeper
 Lawrence E. Wells (8223) to Assembler
 Elsie D. Wilkins (2120) to Secretary
 Suzanne F. Burgess (7260) to Secretary
 Abie K. Winchell (4112) to Typist
 Josie C. Sena (2000) to Secretary
 Leo P. Apodaca (4114) to Staff Member, Administrative
 Edward P. Darnell (4253) to Staff Assistant, Technical
 Charles W. Dunn (4615) to Stockkeeper
 W. Rappleyea, Jr. (4254) to Layout Operator

SHOPPING CENTER

CLASSIFIED ADVERTISING
 Deadline: Friday noon prior to week of publication unless changed by holiday.
 A maximum of 125 ads will be accepted for each issue.

RULES

1. Limit: 20 words
2. One ad per issue per person
3. Must be submitted in writing
4. Use home telephone numbers
5. For Sandia Corporation and AEC employees only
6. No commercial ads, please
7. Include name and organization
8. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin.

FOR SALE

'53 CHEVY, runs, \$25 or best offer. Doherty, 268-5984.
 TYPEWRITER, Royal standard, \$35. Young, 4614 Burton SE, 256-9158.
 23" SILVERTONE cabinet model TV, 2 yrs. old, \$90. Dalesandro, 268-8907.
 '62 TRIUMPH Herald conv., \$495. Nord, 10301 Eden Dr. NE, 298-5259.
 HOUSE PLANT, Oleander, approx. 6' high, in decorator pot. Nelson, 255-2364.
 FENDER piggyback Bassman amplifier w/cover, \$400. Cordova, 268-4864.
 '65 VOLVO #544, metallic blue, 28 mpg, \$1350. Armijo, 242-9816.
 '57 BUICK 4-dr., \$195. DeLuca, 299-1458 after 5.
 12 CU. FT. Frigidaire refrigerator, freezer compartment across top, \$60; 40" Leonard electric stove, \$40. Rutledge, 282-3151 after 5:30.
 STUDIO COUCH, brown, \$15; Baby Tenda, \$7. Gragg, 298-0267.

STEREO, Scott dual 60 watt amplifier, Citation IV preamp, radio Craftsman AM-FM tuner, blond oak cabinet, \$160. Fite, 255-6943.
 '30 MODEL A 4-dr. town sedan, \$495. Gay, 1845 Georgia St. NE, 268-9921.
 PHOTO ENLARGER, 4x5, condenser type, lens, 135mm; or will trade for smaller size. Kutzley, 255-3572.
 .22 LEVER ACTION w/4x scope, Marlin model 39A, \$60; .22 high standard, Sentinel 2 3/8" barrel, \$35. Ernst, 344-8694.
 BEAGLE registered tri-color female, 2 mos. old, \$20. Eagan, 298-0196.
 TRAVERSE rods, various sizes, \$2 to \$5; large packing boxes and cardboard wardrobe. Sherwin, 344-1911.
 PAIR of Early American wing chairs, green print, \$35 ea. Pitts, 299-0271.
 '56 CESSNA 172, new paint, 330 hours on chrome major, good radio, Flying 8 Club, \$5650. Kreidler, 299-8494.
 1 1/2" TRAILER, \$845; equalizer hitch, \$35. Archuleta, 255-6781.
 SKI BOOTS, 1 pr. ladies size 10 Dolomites; 2 pr. safety bindings. Bailey, 268-1140.
 '61 CADILLAC sedan DeVille, all power, 38,000 miles, Persian sand, \$1200. Liguori, 256-3613.
 SHEP-A-POO puppies, fluffy black males, \$5 ea. Hole, 268-2504.
 '55 FORD 4-dr. sedan, V8, AT, R&H, \$150. Fortman, 256-2105.
 '61 TRIUMPH Tiger Cub; 2 new shocks for Volkswagen sedan. Campbell, 256-3214.
 PAIR girl's shoe skates; FM tuner; old Victrola cabinet; .22 Ruger pistol. Will trade. Pritchard, 268-9618.
 BOY'S or girl's 20" bicycle, \$10; car seat, \$1; automatic electric sterilizer w/bottles, \$7. Christensen, 299-5719.

BASENJI puppies, the barkless African dog; available Feb. 1, either male or female, red and white puppies for \$65. Weart, 298-0614.
 '57 BUICK sedan, R&H, AT, PS, one owner, low mileage, \$250. Nelson, 265-1072.
 GE automatic washer, \$25. Zucuskie, 268-3105.
 4-BDR., dcn. Mossman Sacramento, AC, carpeted, drapes, fp, fruit trees, roses, \$21,000 total, 4 1/2% G.I. loan may be assumed, 2832 Dakota NE. Glenn, 265-0647.
 '54 MERCURY V8 2-dr. HT, hydramatic. Guess, 296-2314.
 GLASER-STEERS record changer, \$25 or best offer. Henfling, 255-1746.
 6-CYL. JEEP MOTOR, complete; other Jeep parts, all for \$65. Frasier, 299-6933.
 MINI-BIKE MOTOR, McCulloch 45, w/centrifugal clutch and muffler, displacement 6 cu. in., \$75. Lenz, 7101 Edwina NE, 298-3872.
 26" BOY'S bicycle, \$20; 24" boy's bicycle, \$15; Murphy bed, complete, spring, mattress and wall mounting hardware, \$15. Luna, 299-2488.
 COMPLETE amateur radio station, Viking II transmitter, \$110; HQ-140-X receiver \$100, or above plus accessories, \$230. Jones, 268-4954.
 '65 MOTOROLA COLOR TV, \$225 cash or trade 40" material to build a horse barn. Poteet, 898-2545.
 TWO 12" Jensen dual cone speakers in Olsen enclosures, \$30 for the pair. Cave, 299-5066.
 DACHSHUND puppies, purebred, \$25. Wistor, 298-0871.
 REGISTERED PUG puppy, 8 mos. old. Lerke, 265-0780.
 '65 VW deluxe sedan, low mileage. Greenhalgh, 842-3226, 8-5 p.m.
 STATE (Singer) heavy duty sewing machine, \$15; Signature deluxe washer, 2 yrs. old, cost \$219, sell \$80. Morrow, 298-1762.
 '62 HONDA, 50cc sports model, new tires, \$100. Shelton, 299-7719.

PAIR sofa loungers w/bolsters, foam cushions, w/zip-on covers, \$75; matching corner & end tables, \$23; two lamps, \$7 ea. Krespe, 256-6479 after 5.
 ADMIRAL FREEZER-REFRIG., 7 mos. old, 17 cu. ft., 130 lb. freezer, copertone, no frost; Motorola stereo FM-AM & record player. Martin, 298-6644.
 COUCH, makes into bed, and matching chair, \$25; 2 table lamps, \$5 pr. Stang, 256-7793.
 21" TV Magnavox console, cherrywood cabinet. Shinn, 299-6238.
 SNOW TIRES, 5-60x15, used part of one season, \$10. Linn, 282-3986.
 AKC registered German Shepherd puppies, champion bloodlines. Riley, 256-9722.
 WASHING machine, wringer type. Krug, 298-4712.
 '60 CORVAIR, 4-dr. Milner, 299-7155.
 EXTRA HEAVY DUTY tow bar, used once, \$35. Gay, 299-5625.
 BABY CRIB and mattress, \$15. Garcia, 2251 Hooper Rd. SW, 243-3473.
 GE refrigerator w/freezer compartment, approx. 12 yrs. old, \$60. Bishop, 299-6757.
 SEKONIC 8mm movie camera, 3 lens turret, built-in light meter w/case, pistol grip, \$55. Keltner, 298-7888.
 SE HEIGHTS, 3-bdr. and den, 2 1/2 baths, landscaped, carpeting, \$18,400. Claassen, 255-4347.
 BOSQUE FARMS VILLAGE, 1/2 acre, 3-bdr., 1 1/2 baths, den w/fp, utility rm., dbl. garage, carpeted, AC, built-in R&D, extras, consider trade Alb. area. Kostedt, 256-2980 or 636-2540 eve.
 DBL. BED w/bookcase headboard, springs, mattress, vanity and bench to match, w/ or w/ skirt; pair of curtains, will deliver, \$40. Heath, 255-5418.
 2 6-70x15 snow tires mounted on 15" G.M. wheels; Remington portable typewriter. Everett, 298-3994.

WANTED

JOIN car pool in area near Morris & Comanche. Hermansen, 296-3705.
 RIDE from Corrales Road to Bldg. 800 or form car pool. Haley, 898-3041.
 SMALL, cheap car that will get 30 or more mpg. Flowers, 282-3458.
 WHEEL for GMC pickup, 15" drop center. Coleman, 299-2377.
 10 or 12' BOAT, Jon type preferred. Kutzley, 255-3572.
 GOOD HOME for small black long-haired dog, male, good w/children, needs high-walled yard. Matlack, 256-7371.
 WILL TRADE a 1960 Ford pickup for an economy car such as a Volkswagen, Datsun, Opel, etc., in good condition. Everett, 264-6877.
 DOWN QUILT, PILLOWS; someone to do hand embroidery, heading, mangle ironing. Bascom, 299-1662.
 PIANO, upright or baby grand, good condition. Moss, 298-2643.

FOR RENT

OR LEASE: large 4-bdr. adobe house near Las Lunas, 45 mins. from Base. West, 299-5521.
 5-BDR. HOME, 3,000 sq. ft. living area, 3 baths, den, dbl. garage, electric kitchen, 2 fireplaces, NE Heights. Goodman, 299-3652.
 FOR LEASE: 2-bdr. unfurnished home, Country Club area, den dual fireplace, patio, enclosed yard, good schools, available Jan. 15. Puett, 877-5348.

LOST AND FOUND

LOST—Safety glasses, address book, man's hat, Parker pen w/black barrel and silver cap. LOST AND FOUND, tel. 264-2757, Bldg. 610.
 FOUND—Gold earrings w/pearls, key. LOST AND FOUND, tel. 264-2757, Bldg. 610.

Coronado Club Calendar

Las Vegas Stay to Winner of Casino Night Tomorrow at Club

Today is Friday the thirteenth. But tomorrow there should be no handicap on your luck. Try it at the Coronado Club's Casino Night.

Play money will be issued at the door and the object of the game is to break the bank. Door prize will be two nights' lodging for two at the Hacienda Hotel in Las Vegas, Nev. The prize package also includes brunch, dinner, refreshments, and a late show. Other prizes will be awarded top winners.

Elton Travis will make Western music for dancing from 9 to 1 a.m. Sandwich service will be available. Admission is \$1 for members, \$2 for guests. No reservations needed for this one.

Teenage Go Go

On Saturday, Jan. 21, the Coronado Club will take on a youthful look as teenage sons and daughters of members dance with the Bondsmen on the bandstand. The bash starts at 7:30 p.m., wraps up at 10:30. Parent members must pick up tickets by 5 p.m., Jan. 21. Members admission is 25 cents, guests 50 cents with the limit set at three guests.

Social Hours

Tonight the big chuckwagon beef and shrimp buffet will be served. Rex Elder will make the happy music. The buffet costs \$1.75 for adults, \$1.50 for kids.

On Friday, Jan. 20, the Rhythm Masters will play while the popular Mexican buffet will be served. Admission is \$1.25 for adults, \$1 for children.

On Friday, Jan. 27, Elaine Harris will provide the music and the seafood buffet will be served.

El Toro Nights

El Toro Nights continue in the main lounge of the Club each Monday through Thursday with social hour prices for ladies prevailing from 5 to 7 p.m. Solo musicians entertain and daily entree specials are featured.

Bridge

The duplicate bridge group meets Monday, Jan. 16, at 7 p.m. ACF bridge meets Wednesday at 7 p.m., Ladies bridge meets Thursday, Jan. 19, at 1:15 p.m., and the monthly master point competition will be held Monday, Jan. 23, at 7 p.m.

Bowling

A mixed doubles tournament is scheduled at Lomas Bowl Saturday, Feb. 4, at 2 p.m. All Club members who wish to compete should contact Jake Gonzales (4251), tel. 298-2164, or Ciss Kelly (3113), tel. 299-3700.

The Junior Bowling Club needs several girl bowlers, age 8 to 15, to complete the last half of the season. The group is supervised. Anyone interested should contact Norm Ericksen (ACF), tel. 298-2122. The group meets at Lomas Bowl Saturdays at 9:30 a.m.

Ski Club

The Coronado Ski Club will meet Thursday, Jan. 17, at the Coronado Club. Program will feature a ski movie.

Take Note

R. D. Flaxbart, manager of Plant Maintenance Department 4510, will be chairman of a round table discussion of "Plant Engineering and Maintenance in Research and Development Plants" during the 1967 National Plant Engineering and Maintenance Conference. The meeting will be Jan. 30-Feb. 2 in Chicago.

Kenneth A. Sarason (2563) will speak on "Value Engineering—A Cost Improvement Technique for Industry, Business, and Home" at the regular monthly meeting of the Albuquerque Chapter, National Association of Accountants on Jan. 19. A portion of the program will be structured around a practical workshop session involving audience participation. The meeting will be at the Fez Club, 809 Copper Ave., NW.

Gaynor Atkinson (7331) will play one of the three leading roles in "The Rainmaker" when the romantic comedy opens Jan. 19 at Old Town Studio, 1208 Rio Grande NW. Deputy Sheriff File, the character he will interpret, is in conflict with the visiting "rainmaker" throughout most of the play.

Gaynor has appeared in the last two productions of Old Town Studio and has also acted in plays presented by the Albuquerque Little Theatre.



FRIDAY THE THIRTEENTH doesn't scare Fran Phipps (3126/9233). She figures her luck will be good tomorrow at the Coronado Club's Casino Night where real prizes will go to the top winners of play money.

Agnes Law First Sandian to Retire Under New Provisions



Agnes C. Law, secretary in Remote Areas Maintenance Division 4518, retires today after almost six years at Sandia Laboratory. She began employment at Sandia in March 1961 in the Purchasing organization.

Agnes' early retirement is made possible through the provisions of the recently revised Sandia Retirement Income Plan. She is the first to retire under the new plan which provides improved benefits when retiring at 60.

Agnes marked her 60th birthday in November (her co-workers found this hard to believe due to her youthful appearance and obvious energy). Since her three sons were grown and away from home, she felt a release of pressures. It was time to think of travel, of leisurely enjoyment of her home and garden at 2628 Del Sur SW, and of long-dusty tubes of oil paints.

For many years of her life, Agnes was a widow rearing three young sons. She



John N. Hansen will retire Jan. 31, completing 12 years of employment with Sandia Laboratory. John has worked in the 2200 organization the entire time. He started as a checker in drafting, was liaison man to the shops, and for the past three years has been assigned to Engineering Drawing Standards Section 2223-1.

Before moving to Albuquerque, the Hansens lived in Chicago where John was superintendent of Gehart Manufacturing Co. For two years, he was an instructor in the use of aircraft instruments at the Chicago Aeronautical University.

John was born in Denmark and the family came to the United States when he was 11 years old. "It was happenstance that we came to this country," John says. "My father had purchased tickets to Argentina, but a friend living in Illinois convinced us that we should come to America." The tickets were exchanged and the family settled in Illinois.

Following retirement, Mr. and Mrs. Hansen have lots of travel plans. They will visit friends in California and Florida and their married son and two grandchildren in Illinois. On Aug. 9 they will depart by boat for a three-month stay in Europe. They have relatives in Denmark and Sweden, where Mrs. Hansen was born.

remarried about three years ago, but was reluctant to give up her work, her income, her independence.

"Now, I've relaxed," she says. "We want to travel, see the eastern part of the United States—the Ozarks, New England, New York. I have a new electronic camera and it makes lovely color pictures. These I can use for reference while painting. Years ago I did landscapes in oils and I'm eager to start again."

Under the provisions of Sandia's Retirement Plan, Agnes will receive a reduced annuity (compared with what she would have received if she retired at age 65), but the Plan provides an additional temporary annuity to fill the gap until she is eligible for a full Social Security benefit. The temporary annuity provides an additional \$30 of annual income for every year the employee participates in the plan.

Other new provisions of Sandia's Retirement Plan provide for earlier vesting privileges, disability retirement income, and an income benefit for a surviving spouse. All of these are increased benefits compared with the previous plan and are made available at lower cost than under the older program.



FUNCTION OF MAGNETIC TAPE is described by Roger M. Campbell (9411-4) to a portion of the 30 academically talented students from local senior high schools during a recent tour of Sandia's 7090 computer facilities. The students also viewed exhibits at the Sphere of Science and heard J. K. Merillat (3151) speak about employment opportunities at Sandia. Approximately 150 students visited ten local firms as part of Business-Introduction Day, co-sponsored by the Chamber of Commerce and the Albuquerque Public Schools.

Retiring

W. G. Funk to Chair Seminar at Plans For Progress Meeting



William G. Funk, manager of Employment and Personnel Department 3150, is on the program committee and will serve as a seminar moderator for the Fifth Annual Plans for Progress Conference to be held Jan. 23-24 at the Sheraton Park Hotel in Washington, D.C.

Six-hundred representatives of firms who are members of Plans for Progress are expected to attend the annual event which will feature nationally known leaders in government, business, and minority groups.

Plans for Progress is a voluntary effort by American business and industry to affirmatively promote and implement equal employment opportunity. The program was conceived in 1961 as a cooperative adjunct to the President's Committee on Equal Employment Opportunity which was then coordinating Federal efforts on this area. Sandia joined the program in September 1964.

Plans for Progress companies, which now number 350, take the initiative by carrying out affirmative action policies and projects to end discrimination and to increase job opportunities for minorities.

Subject of Mr. Funk's seminar on Jan. 24 is "Affirmative Action for Spanish-Americans, American Indians, and Puerto Ricans." Wendell Chino, chairman of the Intertribal Council of North American Indians, will be one of the panelists. Mr. Chino is from the Mescalero Apache Tribe.

Charles E. Spahr, president, The Standard Oil Company (Ohio) and chairman of the Plans for Progress advisory council, will deliver the opening remarks.

Hobart Taylor, Jr., director of the Export-Import Bank of Washington, will moderate a general session on Jan. 24. Senator Joseph Montoya of New Mexico, Roy Wilkins, National Association for the Advancement of Colored People; and Whitney M. Young, National Urban League, will present their views on the course of civil rights for 1967 during the session.

Other speakers include Vice President Hubert H. Humphrey; Secretary of Labor W. Willard Wirtz; and Olcott D. Smith, chairman of the board, Aetna Life & Casualty Company.

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SANDIA LAB NEWS

Sandia's Safety Scoreboard

Sandia Laboratory:

43 DAYS

1,505,000 MAN HOURS

WITHOUT A

DISABLING INJURY

Livermore Laboratory:

78 DAYS

383,560 MAN HOURS

WITHOUT A

DISABLING INJURY