



BELLRINGER AWARD shown with Louise Miller (3126) will be presented to Sandia departments with 90 percent participation in the Company's 1966 U.S. Savings Bond drive this month.



SANDIA CORPORATION

PRIME CONTRACTOR TO THE ATOMIC ENERGY COMMISSION

ALBUQUERQUE, NEW MEXICO • LIVERMORE, CALIFORNIA

LAB NEWS

VOL. 18, NO. 8, APRIL 22, 1966

Sandia Awarded NASA Contract In Planetary Quarantine Program

The National Aeronautics and Space Administration has awarded a contract to Sandia Corporation for a continuing technical program of research, development, and engineering services in support of the Planetary Quarantine Program.

The Planetary Quarantine Program was suggested by the National Academy of Sciences in 1958 as the prime requirement for assuring ecological (interrelationship

of organisms and their environment) preservation of planets and natural satellites other than earth. This is particularly important so that biological experiments designed to detect evidence of life there are not compromised by earth-borne bacteria.

The two immediate areas of Sandia's effort are a general system analysis to investigate the amount of microbial contamination expected on a planetary landing capsule prior to final sterilization and development of instrumentation and monitoring techniques for bio-clean assembly rooms.

According to H. D. Sivinski, manager of newly-created Planetary Quarantine Department 2570, "The purpose of this research project is to develop a planned approach to the problem of how to avoid carrying microbiological life to other planets and natural satellites."

Lovelace Foundation will support Sandia Corporation for microbiological studies.

This NASA contract might be considered a natural outgrowth of Sandia's activity in the field of clean rooms. In carrying out its responsibility as a nuclear ordnance engineering laboratory, the need for a method to control particulate contamination in assembly of weapon components has become more important with miniaturization. Although conventional clean rooms with air filter systems and air locks were in use in Sandia Laboratory and its contractors in the late 1950s, it was in 1960 that the Atomic Energy Commission filed for a U. S. Patent on a laminar flow ultra-clean room in the name of W. J. Whitfield of Advanced Manufacturing Development Division (a patent was issued in 1964). At the time, L. A. Hopkins, Jr., then Director of Manufacturing Development Organization, described the development of this clean room as "a significant breakthrough in providing an ultra-clean manufacturing environment."

Actually, laminar air flow—a constant, uniform movement of filtered air coupled with high-efficiency particulate (HEPA) filters—revolutionized the concept of cleanliness possible in a controlled environment. It made possible a work area with 1000-100,000 fold reduction in airborne contamination over that possible in conventional industrial clean rooms.

In 1963 General Services Administration adopted a Federal Standard on "Clean Room and Work Station Requirements,

Controlled Environment," which was prepared by Sandia Corporation. The Whitfield concepts made possible for the first time standardized specifications on clean rooms used by various government agencies.

The "spinoff" from a nuclear weapons activity to industrial and medical areas was significant. The demand throughout industry and government facilities for laminar-flow clean rooms, clean benches, and portable clean room units caused a definite shift in emphasis by companies producing conventional type clean room equipment.

As early as 1962, the first Sandia laminar-flow clean room was used by Lovelace Foundation and they measured the bacteria count in the room during an operation on a laboratory animal. The results were judged very good even when compared to the bacteria count of a hospital surgery room.

Last year a further series of tests, verified by Dr. John W. Beakley, microbiologist at the University of New Mexico, disclosed that the ability of Sandia's laminar downflow clean room to control airborne microbiological contamination approaches the absolute. A few months later Bataan Memorial Hospital in Albuquerque announced that a surgery room, the first built to utilize the Whitfield concept, was in operation.

Goddard Space Flight Center, a NASA agency, selected the Sandia Laboratory clean room facility for evaluation tests to study biological contamination during assembly of a full-scale conceptual model of a planetary lander and its protective nose cone. Several types of sampling techniques were used in this joint Sandia-Goddard study.

Under the NASA contract, the systems analysis and mathematical modeling functions will be carried out by Systems Studies Division 2571, headed by C. A. Trauth, Jr. "Our mission is to provide the theoretical foundation for the total planetary quarantine problem," he said.

Statistical models will be based upon biological factors, assembly work environments, and assembly techniques. These models will result in statistical predictions of the amount of microbiological contamination on planetary probes and landers prior to final sterilization. "Many

Continued on Page Seven

Goal 90% Participation

Annual Savings Bond Drive Begins At Sandia Laboratory April 26

Annual U.S. Savings Bond Drive at Sandia Laboratory kicks off Tuesday when Sandia Corporation President S. P. Schwartz addresses a rally of drive coordinators, solicitors, and other workers. Group meetings of employees will start the next day with department managers outlining the advantages of Savings Bond investments.

Goal this year is to double the percentage of participation among Sandia employees—from about 45 percent to 90 percent participation. Some 3675 Sandians are currently investing \$56,978 monthly in U. S. Savings Bonds.

Those employees now participating in the program received in today's mail a letter from Mr. Schwartz expressing his appreciation for their support. Enclosed, also, was a "Minute Man" lapel pin. These pins will be issued to each new enrollee as he signs a payroll deduction card for Savings Bonds.

In the letter, Mr. Schwartz said, "Support of the national U.S. Savings Bonds Drive is doubly important for a company such as Sandia which makes such an important contribution to the defense posture. We did quite well last year in raising our level of participation to 45 percent. This year, with our country engaged in a serious conflict in Viet Nam, it is more important than ever that we take the lead in our community and encourage those who are not buying E-Bonds to join those of us who are.

"I want you to know that I personally appreciate your support of Sandia's Bond program and hope you will wear the enclosed Minute Man pin during this week of April 25th to symbolize your support of the Bond Drive."

As the drive progresses, results will be displayed on a number of large boards

posted at entrances to Tech Area I. The boards will show the percentage of employee participation in each general organization.

Departments (with five or more employees) which achieve 90 percent participation in the Savings Bond program will be presented a "Bellringer" award, small replicas of the Liberty Bell for display within the department.

During the drive, various displays will be mounted within the Laboratory and posters will be on the bulletin boards. Literature on the advantages of Savings Bond investment will be distributed at employee meetings.

Two points will be stressed during the drive: (1) Sandia is a government financed operation and the purchase of Savings Bonds benefits the government, and (2) Savings Bonds are a better investment than ever.

Since December 1965, the interest rate on Series E Bonds has been 4.15 percent, compounded semiannually when the bonds are held to maturity. In effect, the new rate shortens the maturity time for the Bonds to seven years from the issue date instead of the old time of seven years and nine months.

Tax advantages of buying Bonds will be outlined during the employee meetings. As investments for retirement, Savings Bonds offer unique advantages.

D. R. Morrison (5256) is chairman of Sandia Laboratory's Savings Bond Committee and W. A. Doyle (3242) is committee secretary. Other members of the committee are C. W. Jennings (1133), Mrs. Janice Sharp (2234), T. D. Harrison (2514), R. N. Reed (3151), M. Martegane (3242), D. D. Wader (4234), Tony Chaves (4631), L. E. Lamkin (7300), and R. Lynes (9413).

F. C. Cheston Returns to WE; C. T. Ross Named to Position

F. C. Cheston, Jr., Sandia's General Attorney, Secretary and Treasurer, will return to Western Electric Company's Legal and Patent Division as Assistant General Solicitor, effective May 1. He has been with Sandia Corporation since July 1962.



C. T. Ross

Succeeding him at Sandia will be C. T. Ross, Jr., presently Attorney at Western Electric headquarters in New York City. Mr. Ross is also general attorney for and is on the Board of Directors of Manufacturers' Junction Railway Company, a WE subsidiary.

Mr. Ross received a BS degree in business administration from Stetson University and a Bachelor of Laws degree from University of Virginia. As a lieutenant in the U. S. Naval Reserve he saw active duty

from October 1942 to January 1946.

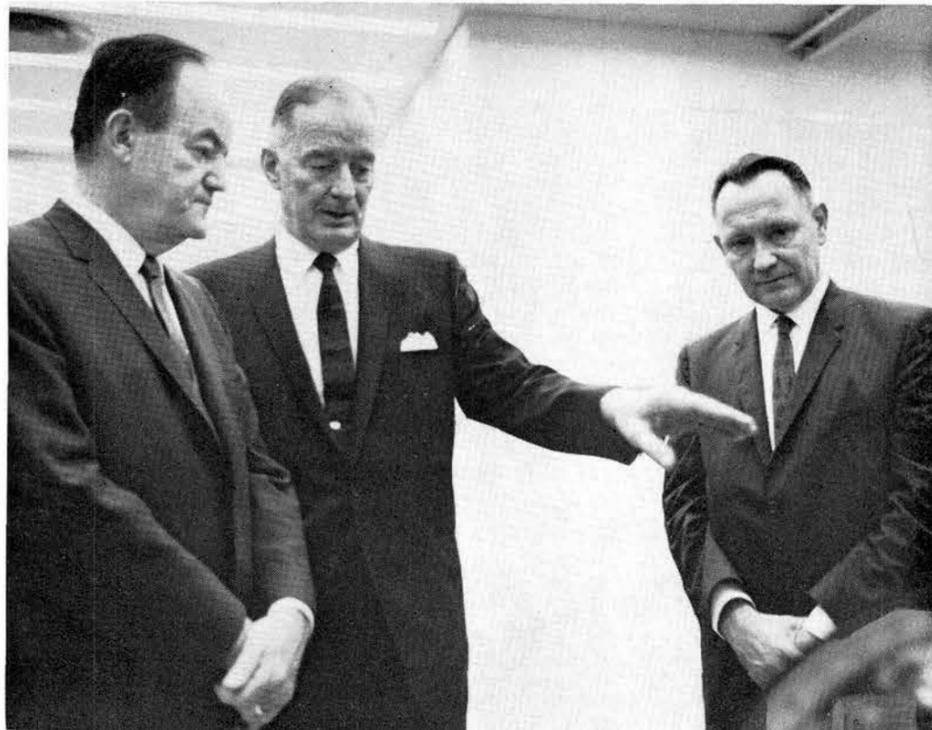
Following World War II, Mr. Ross was a partner in the law firm of Ross & Ross until he joined Western Electric's New York office as attorney in 1960.

He is a member of the Order of the Coif, a legal society; Phi Alpha Delta, a legal fraternity; West Virginia State Bar Association; and the American Bar Association.

Multipath Core Paper Presented in Germany

A Sandia-originated technical paper will be presented at the International Conference on Magnetics being held April 20-22 in Stuttgart, Germany.

The paper, "History and Signal States in Multipath Cores," was written by A. C. Wilken (2423), R. C. Barker of Yale University (a Sandia consultant), and R. H. Braasch, who is on educational leave-of-absence from Sandia. Mr. Barker, who is on one of the conference committees, will make the oral presentation.



VICE PRESIDENT Hubert H. Humphrey (left) visited the nuclear weapons training and exhibit area last Sunday for a briefing by S. P. Schwartz (center), Sandia Corporation President. At right is Brig. Gen. Delmar Crowson, Director, Division of Military Application, U.S. Atomic Energy Commission. In his remarks, Mr. Schwartz stressed the excellent working relationship that exists between AEC contractors, the Armed Forces, and other government agencies involved in atomic energy and related programs.

Editorial Comment

Next week 3664 Sandia employees will be entitled to wear a Minute Man lapel pin. The Minute Man emblem signifies participation in the U.S. Savings Bond investment program. We think that it is not too far-fetched to draw an analogy between the Minute Men of '76 and those who wear the Minute Man emblem today. Both invested in the welfare of our nation and in the soundness of their future.

By purchasing U. S. Savings Bonds you are protecting your country while making a sound investment.

Savings Bonds are the safest investment a person can make. Though the Bonds may be lost, stolen, or destroyed, the money invested with accumulating interest earned is still intact—held safely for you by the government till you choose to withdraw it.

Interest rates are up from 3.75% to 4.15%. (The Bonds mature in seven years instead of seven years, nine months.)

But the best bargain with U. S. Savings Bonds is the tax feature. There are no state or local taxes on Bonds, and the federal income tax on the interest may be deferred until the Bonds are cashed (possibly after you have retired and are in a lower tax bracket).

The goal for this year's Savings Bond Drive at Sandia is 90% participation in the Bond buying program. In view of our work and the financing of our efforts, it is our privilege, responsibility, and obligation to buy Bonds.

Union Presidents Endorse Bond Drive

To My Fellow Employees:

The President has called upon all Americans to help him stabilize the economy by enrolling in a U.S. Savings Bond Payroll Deduction plan. There are not many ways in which a citizen can, with so little effort on his part, do something for his country and at the same time, do something for himself. It only takes a few minutes. Why don't you do yourself a favor, and your country too, and sign up for a Bond a month.

(s) Robert L. Byrd, President Local 27
International Guards Union

* * *

To My Fellow Employees:

I believe that buying U.S. Savings Bonds is a good investment. The convenience of the Payroll Deduction plan at Sandia Corporation has encouraged me to buy United States Savings Bonds at a rate suitable to me, and provides one of the best methods for saving money for any future need, such as education of the children or to supplement other retirement benefits.

Furthermore, buying United States Savings Bonds helps to strengthen the security of our country and is an opportunity for us to express our patriotism and support of the United States' policy to encourage peace abroad and prevent aggression against our Country. Unfortunately, freedom is not a part of nature but freedom is made by men.

(s) Paul J. Cruz, President Local 251
Office and Professional Employees International

* * *

To My Fellow Employees:

The purchase of Savings Bonds represents an investment in the nation's well being. It helps to prevent inflation and protects the value of the dollars we earn. In addition, the Payroll Savings plan is the simplest and most effective way for a wage earner to initiate a systematic program of investment. For our own good, I cannot urge too strongly that you take advantage of this opportunity to enroll in the Payroll Savings Plan, and then watch the Bonds pile up.

(s) Walter E. Myers, President
Metal Trades Council



"MINUTE MAN," symbol of American freedom, is also the symbol on lapel pins which will be worn by participants in Sandia's U.S. Savings Bond program. Union Presidents W. E. Myers, Metal Trades Council; P. J. Cruz, Office and Professional Employees International, Local 251; and R. L. Byrd, International Guards Union, Local 27; joined with Sandia Corporation President S. P. Schwartz in urging all employees to invest in America and their own futures with U.S. Savings Bonds. The Minute Man pins will be distributed next week to Bond Drive participants. Ninety percent of Sandia employees should be wearing them by the end of the campaign.



TOURING TECH AREA I, members of Sandia's Board of Directors talk with S. P. Schwartz, Sandia Corporation President, right. At left is P. A. Gorman, Western Electric Company President; and H. Mehlhouse, Western Electric Company Vice President.

Which Size Savings Bond Best For You?

With the new 4.15 percent interest rate, U. S. Savings Bonds are better buys than ever before. They come in convenient sizes, also. They're small enough to become habit-forming. They make ideal gifts. The starter size sells for \$18.75 and it's worth \$25 in just seven years.

There's another size that's very big with payroll savers. Only \$9 per week buys one a month comfortably. It sells for only \$37.50 and it's worth \$50 at maturity.

An employee who has \$37.50 for U. S. Savings Bond deducted monthly from his paycheck will accumulate a nest egg worth \$2447.88 in five years. And it keeps growing as the months pass, earning 4.15 percent interest. There is no more convenient or safer way to save.

There's a size for those who want to buy more than a \$50 Bond but not quite a \$100 one. It sells for just \$56.25 and is worth \$75 in seven years.

For bigger savings, consider the \$200 Bond at \$150, the \$500 Bond at \$375, or the \$1000 Bond at \$750. There's a size just for you.

PAGE TWO

LAB NEWS

APRIL 22, 1966

SANDIA CORPORATION LAB NEWS



ALBUQUERQUE, NEW MEXICO • LIVERMORE, CALIFORNIA

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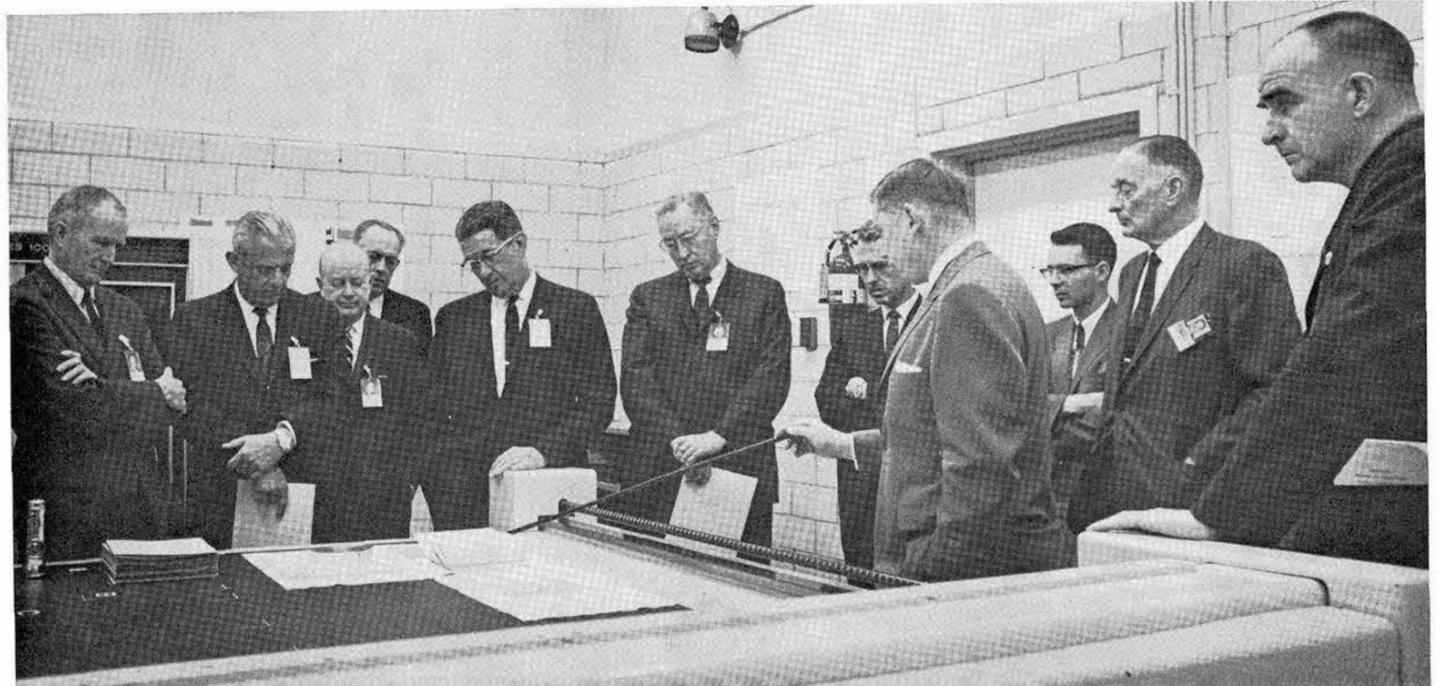
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7

SANDIA CORPORATION Board of Directors, meeting at Sandia recently, toured Laboratory facilities. Here, they view automated drafting equipment used in the production of printed circuit masters. From left are J. B. Fisk, President, Bell Telephone Laboratories; L. R. Cook, Vice President, Western Electric Company; A. P. Clow, Vice President, Western Electric Company; H. Mehlhouse, Vice President, Western

Electric Company; P. A. Gorman, President, Western Electric Company; H. K. Onstott, Vice President, Bell Telephone Laboratories; and E. L. Emerson, D. E. Walker, and A. D. Bridegam of Engineering Practices and Numerical Systems Development Division 2223; S. P. Schwartz, Sandia Corporation President; and J. P. Molnar, Executive Vice President, Bell Telephone Laboratories.



LIVERMORE NEWS

Livermore Notes

Naval Air Reservist Bill Brown's (8161) motto could well be "Join the Navy and see the world — part time." He just returned from a two-week active tour of duty in Hawaii (April 4-17).

During the ten years that Bill has served in the reserves, he has been flown to such distant places as Morocco, London, Hong Kong, Newfoundland, Wake Island, the Azores, Guam, the Philippine Islands, and Naples, Italy, for his two-week annual active duty cruise. Currently an Aviation Storekeeper 1st Class, Bill intends to take the examination for Chief Petty Officer in July and continue in the Naval Air Reserve for another ten years.

Ceremonies were recently conducted by the Livermore-Pleasanton Elks Lodge No. 2117 to install Sandians N. F. Jacobson (8155) and A. A. Alford (8223-5) in their newly-elected offices. Mr. Jacobson was elected Exalted Ruler of the local fraternal organization and takes over the leadership of the lodge from outgoing Exalted Ruler A. L. Pearson (8222-2). Mr. Alford was elected Esteemed Loyal Knight.

Other Sandians appointed to committee chairman positions were: D. D. Wagner (8211), membership; L. B. Converse (8122) and T. R. Payne (8123), publicity; G. E. Mincks (8222), Past Exalted Ruler, Board of Trustees; A. L. Pearson (8222), Past Exalted Ruler, building and site; H. D. Sorensen (8127), sports; and E. E. Alford (8245), activities.

Monday, May 2, is the last day for W.W. II and Korean veterans to file for a tax exemption on their property taxes. The \$1000 assessed valuation exemption is granted in favor of legal residents of California with active service under honorable conditions in time of war in the Army, Air Force, Navy, Marine Corps, Coast Guard, or Revenue Marine (Revenue Cutter) Service of the United States.

Application for the veterans' exemption must be filed each year with the County Assessor between the first Monday in March and the first Monday in May. When making the initial claim, a veteran or spouse of the veteran claiming the tax exemption must appear before the assessor. In subsequent years the claimant may file an affidavit by mail on forms supplied by the assessor.

For further details concerning eligibility and filing requirements, check the Veterans' Exemption brochure posted on all bulletin boards.

Reorganization of Softball League to Provide Better Balance, Greater Competition

A sure sign that spring has arrived at Livermore Laboratory is the circulation of sign-up sheets for the 1966 Intramural Slow-Pitch Softball League. (Games are played on weekdays after working hours.) This year's league activities are being coordinated by Al Wright, Jr. (8124).

According to Al, the league will be reorganized this year. In the past, teams have been formed generally within specific SCLL organizations. This year five or six well-balanced clubs will be formed from a "pool" of interested players.

"I believe that the balanced team will enhance the competition and keep everyone keenly interested until the final game is played," said Al.

The selection will be made in April by several veteran softball players at SCLL. These veterans are: Doyle Baker (8127), Frank Cupps (8144), Tadao Hisaoka (8252-5), Ron League (8245-2), and Marlin Pound (8211). "These players have been asked to organize the teams because of their past experience in the league and their knowledge of the ball players at SCLL," Al explained.

Another innovation this year will be the split-season play. Practice will start in the latter part of May and league play will begin in June. No games have been scheduled for July and August since this is when most employees at SCLL take their vacations. Play will be resumed in September and completed with playoffs, if necessary, in October.

"What we are really after," said Al, "is a fast moving league with lots of competition and enjoyment for all the people who are interested in playing."

Trophies will be presented to the members of the winning team at the end of the season. Batting Average and Home Run trophies will also be awarded. Last year's winning team was 8252. Batting Average honors went to Vic Ham (8252-5) and Home Run trophy was won by Doyle Baker (8127).

Other Softball Opportunities

Any women at SCLL or wives of employees who are interested in playing softball with the Women's RLRA Softball Team should contact Bonnie Chess at LRL ext. 7271.

For those softball enthusiasts who can't get enough of the game, a Sandia team is being organized to play in the City League. If you are interested contact J. F. Neuberger (8124).



LIVERMORE LABORATORY'S MODERN MINUTE GIRL Donna Cook (8243) urges you to invest in your freedom and future with U.S. Savings Bonds. Bonds help to build a strong America. SCLL's 1966 Bond Drive starts Monday, April 25.

New Art Gallery Opens At Chabot College

Chabot College's new art gallery officially opened recently with a graphics show by Marc Chagall. The exhibition, which consists of some 20 works of art, including etchings, drypoints, and posters, will run through May 2.

The gallery is open to the public with no admission charge. Hours are 9 a.m. to 4 p.m. Monday through Friday and 7 to 9 p.m. Monday through Thursday. The art gallery connects Buildings 900 (Humanities) and 1000 (Art) on Chabot's new campus at 25555 Hesperian Boulevard in Hayward.

Chagall, 79, who has resided in Paris since 1910, has worked extensively in graphics and ceramics, but is probably best known for his stained glass windows in New York City and in the Cathedral of Saint-Etienne in Metz, France.

Modifications Underway In Buildings 911 and 912

Air conditioning and heating modifications are underway in Buildings 911 and 912 at Livermore Laboratory. The Albuquerque Operations Office of the AEC recently awarded a contract for completion of the work to Long Construction Company of Oakley, Calif., which submitted the lowest bid at \$216,836.

The project includes the installation of hot water converters and perimeter baseboard heating units in each building, as well as substantial changes in the air supply system for the buildings.

Designed by B. D. Bohna and Company, architect-engineer, San Francisco, the modifications are necessary to meet increased personnel occupancy requirements over that contemplated when the existing heating and ventilating systems were originally installed.

Personnel of Plant Engineering Planning Division 8251 involved in the project include L. B. Bedinger, project engineer; R. E. Wilhite; and J. G. Harter.

Completion date is scheduled for early November. Work in office areas and corridors will be performed at night. During the daytime, work will be limited to basement and equipment room areas.

Congratulations

Mr. and Mrs. Charlie Comito (8252), a son, Andrew Charles, April 4.

Ferne Saylor Is President Livermore Chapter, American Business Women's Assoc.



Ferne Saylor, supervisor of Product Definition Control Section 8253-3, was recently installed as president of the Livermore Valley Charter Chapter of the American Business Women's Association. She is a charter member and the second president of the chapter which was organized in December 1964.

Ferne has worked at Sandia since 1953 in such engineering support organizations as standards, drafting, and product control. She transferred to Livermore Laboratory in 1957. Before coming with Sandia, she was an accountant for a concrete company in Ponca City, Okla., for 16 years.

Approximately 70 women from various business and professional fields throughout the Livermore Valley are currently members of the local ABWA chapter. Other Sandia members include Barbara Netherton (8250) and Irmal Brown (8116) who is the chapter's new corresponding secretary.

Meetings are held the third Tuesday of each month in the banquet room of Hap's Restaurant in Pleasanton. The social hour begins at 6:30 p.m., followed by dinner at 7:30. Guest speakers from the Bay Area are featured regularly.

Those interested in attending the meetings may contact Ferne on ext. 2328 for further information and/or reservations.

Sympathy

To Arnold Andrade (8223) for the death of his mother in Castro Valley, Calif., March 16.

To Cal Feemster (8133) for the death of his father in Los Angeles, Calif., March 16.

To Ray Leri (8233) for the death of his father in Santa Rosa, Calif., March 19.

To George Steinhauer (8168) for the death of his father-in-law in Lawrenceburg, Ind. March 26.

PAGE THREE

LAB NEWS

APRIL 22, 1966



LOOKING FORWARD TO THE SOFTBALL SEASON are Frank Cupps (8144) and Lorraine Stamer (8234). Lorraine has been playing softball with the Women's League of the Livermore Area Recreation and Park District for the past six years. She has been a member of Women's Championship team for the last five years. Frank has participated in Livermore Laboratory's Intramural Slow-Pitch League for the past five years and was a member of the 1960 championship team.

Vital Contributions Made by Sandia In Locating Lost Nuclear Weapon

World-wide attention was focused on the collision of two aircraft over Spain, one of which was carrying four nuclear weapons. Sandia Laboratory personnel and other New Mexicans played a role in investigating the accident, reconstructing the collision, and locating the missing nuclear weapon.

"Broken Arrow," the official designation of this type of operation, rivaled some popular stories about international sleuths. Along with local personnel, Sandia's computers played an important part in locating the missing weapon.

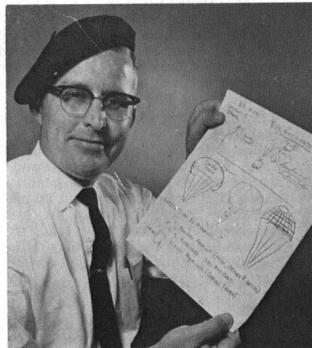
Two aircraft, a KC-135 tanker and a B-52G, had collided during a refueling operation at 30,500 feet near the southeast coast of Spain at 10:22 a.m. (local time there), Monday, January 17. The four nuclear weapons were in the B-52G.

Within a few hours after the accident occurred, a nuclear safety team left Albuquerque on an Air Force C-135A aircraft, bound for an overseas post near the accident scene. Stuart V. Asselin (1544) and David J. Hart, Atomic Energy Commission's Albuquerque Operations Office, were members of the team composed also of personnel from Los Alamos Scientific Laboratory, Field Command of Defense Atomic Support Agency, and Air Force Directorate of Nuclear Safety. The group arrived there the following morning.

The nuclear safety team concept was formed several years ago so the AEC could work with the military in gathering information and evaluating accidents involving nuclear weapons. In this instance, the team was initially concerned with the safe handling of the weapons involved.

Four of the seven B-52 crew members parachuted to safety. The remaining crew members in the B-52 and those in the KC-135 perished. Three of the weapons, along with heavier plane parts, fell in and around the village of Palomares. Fortunately, none of the villagers were injured by the falling debris.

Two of the weapons broke up—resulting in a scattering of some plutonium. The



WEARING BLACK BERET that was popular during Broken Arrow operation, R. C. Maydew (9320) holds a sketch which Senor Simo used to describe the parachutes he saw from his boat.

third bomb, which fell near a dry river bed between Palomares and the sea, was recovered virtually intact. The Nuclear Safety Team aided the 16th Air Force, under the command of Maj. Gen. Delmar E. Wilson, in conducting a ground search for the missing weapon, identifying weapon debris, and examining suspected weapon impact craters.

The search continued, but the fourth weapon was not found on land. With considerable conjecture on what had happened to the fourth, Gen. Wilson requested the assistance of experts in evaluating what might have occurred and the most likely spot to look for missing number four.

The Honorable W. J. Howard, Assistant to the Secretary of Defense for Atomic Energy and Chairman of Military Liaison Committee to the AEC, called Alan Y. Pope (9300) on Saturday, Jan. 22, five days after the accident, to request ballistic support of Sandia's aerodynamic group in locating the missing weapon. Mr. Howard, former

Director of Systems Development at Livermore 8100, asked Mr. Pope to form a study group to complete ballistic studies for establishing the impact area of the missing weapon and to coordinate these activities with the Directorate of Nuclear Safety at Kirtland AFB.

Randy C. Maydew (9320), Floyd E. Forsythe (9323), Sam McAlees, Jr. (then 9325 and now 9314), and William B. Pepper (9324) made up the first study group. All messages pertaining to the accident that had been received at Kirtland were brought to Sandia Laboratory for the study.

The initial studies were completed during Saturday and Sunday (Jan. 22-23) nights so Sam McAlees could brief Mr. Howard and military officials at the Pentagon on Monday on the results of the preliminary trajectory calculations. These calculations served as the basis for the initial planning of the Navy sea search. That same day, additional ballistic studies based on new information were launched by W. R. Barton and I. T. Holt (both 9324).

The Sandia group requested all wind information from sea level to the flight altitude of 30,500 feet from meteorologists at Torrejon AFB, Madrid, Spain. The high winds of almost 75 miles an hour at 30,000 feet proved to be a very important factor in locating the missing bomb.

Three days later (Jan. 27), Maj. Gen. Wilson asked that Alan Pope or Randy Maydew fly overseas immediately to aid in the ballistic studies there. W. R. Hoagland (1544), who was aiding in the nuclear safety aspects of the accident, had recommended individuals with the appropriate technical background from Sandia Corporation, Wright-Patterson AFB, and Eglin AFB be assembled to make a system study.

To calculate the trajectory of the missing weapon, it was first necessary to reconstruct the accident to determine the altitude, true course, ground speed, and impact point so calculations could be made from potential release points. Other important data for computing the trajectories of the weapons included their ballistic shapes, air currents at different levels, possible chute deployment or free fall, and water currents at different levels.

Testimony from the surviving crew members provided some important basic information, such as heading and altitude of the planes. Other information had to be pieced together by studying the location of plane parts, craters made by falling debris, location of three other weapons, eye witness accounts, and wind data supplied by the 16th Air Force.

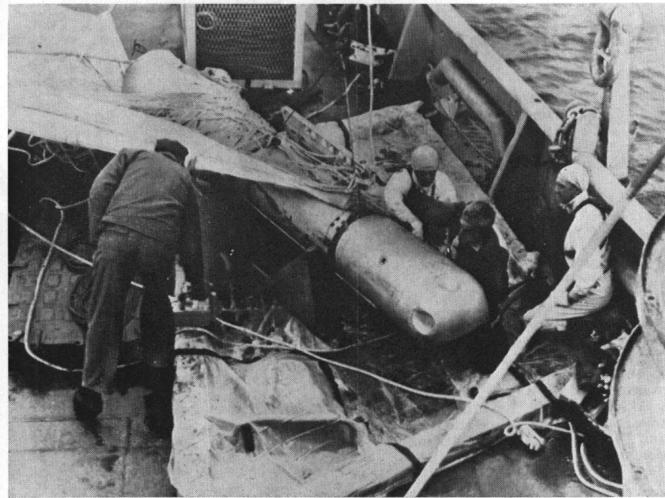
A series of trajectory computations was made by back tracking from the impact points of the three recovered weapons to locate the collision point in the sky. Information gathered on the scene was flashed back to Sandia Laboratory to aid in the trajectory calculations.

Trajectory calculations were made, assuming various parachute drag configurations, to predict the sea impact point of the missing weapon. Results of these studies were continually plotted on charts made by Louis V. Feltz (9323).

Randy Maydew and the Air Force representatives began an on-site study of the aircraft collision point and subsequent aircraft breakup, conditions and time of the four weapons release, and possible solutions for the location of the missing weapon and/or parts of it.

Called the Systems Analysis Team (SAT), they were briefed on the accident, reviewed Aircraft Accident Board testimony, conducted interviews with special witnesses, and forwarded the data to Sandia Laboratory and Eglin AFB for machine computation of trajectories. These studies refined the location of the collision and also indicated that the strong winds blowing out to sea were very controlling.

Aircraft parts impacted over an area up to two miles inland, whereas one of the



MISSING WEAPON was displayed to press photographers aboard Navy submarine rescue ship Petrel after it was raised from the bottom of the Mediterranean. Stuart V. Asselin (1544) was on the Petrel when the weapon was lifted aboard. (Associated Press Cablephoto)

surviving crew members, who opened his chute at about 29,000 feet, was picked up eight miles out at sea.

Surviving B-52 crew members and numerous witnesses on land and sea reported seeing many parachutes in the air. The most important testimony was from a ship's master, Senor Francisco Simo Y Orts. He reported seeing four orange and white chutes, one white, and one darker chute from his vantage point five miles out at sea. The orange and white chutes were those of the surviving crew members. The dark chute, which he reported was supporting what appeared to be a "half-man," impacted about 25 yards from his boat toward the shore. About three or four minutes later, he saw a large white parachute supporting a "stout man" land in the water approximately 75 yards from his boat toward the open sea.

Intensive interrogation of Senor Simo convinced SAT members that the "stout man" was the missing weapon or parts of it. The "half-man" was determined to be a parachute bag supported by an extraction parachute with line tie straps hanging out.

Three solutions were then postulated, all based on the assumption that the missing weapon (or parts of it) had impacted at sea, near Senor Simo's boat. Trajectory calculations verified that this was plausible. SAT, along with Bob Reed (1544), who had replaced Stu Asselin as the Sandia nuclear safety representative, briefed Air Force and Navy officers in charge of search operations on the results of the study. As spokesman for SAT, Randy Maydew recommended that the primary sea search be conducted in the vicinity of Senor Simo's sighting.

One of the three proposed SAT solutions considered the possibility of an in-air breakup of the missing weapon and the impact of critical parts on land. At the request of Gen. Wilson, Sandia conducted drop tests at White Sands Missile Range on Feb. 13 to determine the size and shape of a ground crater caused by impact of a part of the weapon. This project was conducted by W. N. Caudle (9327), S. A. Moore (1540), G. L. Miller (7223), and others with the support of KAEB on very short time scales. Photographs of these craters were hand carried to Palomares to aid in the ground search operations.

W. R. Barton (9324), who replaced Maydew on SAT for continuing ballistic support, worked with Sam Moore, who replaced Bob Reed, and Paul Schneider, who had replaced Dave Hart, AEC/ALO, on additional systems studies. Numerous additional trajectory calculations were made by Floyd Forsythe (9323), with the full cooperation of the 9400 organization, and forwarded to Barton for continued ballistic analysis.

Some of the calculations involved from five to six hours of computer time for each run on the IBM 7090 and Control Data 3600. All three shifts in the computing organization processed the data on a priority basis. Initially calculations were based on a variety of data, much of it gleaned from memory. As additional data became available, the calculations became more refined.

While the total volume is difficult to estimate, some 31 hours of computer time were used and 15 by 11-inch data sheets on the trajectory calculations retained by 9300 are stacked about three feet high.

Additional confirmation of Senor Simo's sea impact sighting was obtained by Bill Barton through questioning a Garrucha pharmacist and his assistant, who had sighted a large parachute descending into the sea. These sightings corroborated the designated sea search area.

Results of the intensive ground search, re-examination of the alpha contamination pattern, and the additional trajectory analysis strongly indicated that the missing weapon was intact in the sea. From underwater current information furnished by the Navy, the study team estimated that the missing weapon had drifted 2500 feet from the splash point.

Team members Barton, Moore, and Schneider briefed military officers in charge of the search on results of SAT studies and reaffirmed the prime sea search area. This was followed by similar briefings for government officials and military officers in Washington, D.C., and at Strategic Air Command Headquarters.

The submersible, Alvin, located the missing fourth weapon at a depth of 2500 feet in the southeastern part of the designated sea search area in mid-March. This was approximately 3600 feet from the final coordinates provided to the Navy by Sandia Corporation representatives.

Complicating the rapid recovery of the missing weapon was the very mountainous sea bottom, with steep ravines hundreds of feet deep, and the darkness at these underwater depths.

As a member of the Nuclear Safety Team, Stu Asselin was the first Sandian to go overseas on the operation and he was the AEC representative on the Navy submarine rescue ship Petrel when the missing weapon was lifted aboard April 7.

The team provided technical consultation during initial examination of the weapon, during preparation of the weapon for display to press photographers and reporters, and during preparation for shipment of the weapon back to the United States.

Playing a vital role in communications between Albuquerque and the accident site was Walter F. White, Director of Storage Division, AEC/ALOO. During the course of the investigation nearly 200 messages passed through his hands.

Aside from the black berets, special shoulder patches, and other symbols of participation, a number of Sandians have received letters thanking them for their invaluable assistance during the operation.

Sandia Speakers

L. S. Nelson (5234), "The Explosion-Free Combustion of Zirconium Droplets," 1966 Spring Meeting of the Western States Section, The Combustion Institute, April 25-26, Denver, Colo.

W. P. Brooks (5134) and R. A. Graham (5133), "Shock-Wave Compression of Sapphire," American Physical Society meeting, April 25-28, Washington, D.C.

R. A. Graham and G. E. Ingram (both 5133), "Capacitance Change of Sapphire under Shock-Wave Compression—A Shock-Wave Stress Gage," American Physical Society meeting, April 25-28, Washington, D.C.

O. E. Jones (5133), "Piezoelectric Behavior of Quartz Shock Loaded at 79° K," American Physical Society meeting, April 25-28, Washington, D.C.

R. H. Plumlee (5142), "Relaxational Behavior of Antiferroelectric Materials Having a Field-Enforceable Transition," American Physical Society meeting, April 25-28, Washington, D.C.

G. A. Samara (5132), "Insulator-to-Metal Transition at High Pressure," American Geophysical Union Symposium on Equation of State of Solids and the Earth, April 19-20, Washington, D.C.

W. C. Scrivner (9400), "Structure of Organization," semi-annual meeting of the American Computation Association, April 21, New York City.

R. C. Sadler (1334), "A Design Procedure for Rotary Solenoids," 14th Annual Relay Conference, April 26-27, Stillwater, Okla.

W. E. Bergsten (2565), N. L. Knudsen (2564), and J. F. McDowell (2564), "The Internal Atmosphere of Hermetically Sealed Components," 14th Annual Relay Conference, April 26-27, Stillwater, Okla.

Elmer Devor (2563), "Response to Resistance," Paradise Hills Lions Club, April 5, Albuquerque.

Lee Stinnett (2563), "The Lion's Share of Value Engineering," Paradise Hills Lions Club, April 5, Albuquerque.

George Cosgrove (1413), "Automatic Liquid Nitrogen Trap Filler," Second Annual Symposium of the New Mexico Section, American Vacuum Society, April 20-22, Albuquerque.

J. D. Williams (1433), "Film Deposition Developments at Sandia Corporation," Second Annual Symposium of the New Mexico Section, American Vacuum Society, April 20-22, Albuquerque.

L. M. Ford (4631-1), "Degassing Characteristics of Sensitive Organic Materials," Second Annual Symposium of the New Mexico Section, American Vacuum Society, April 20-22, Albuquerque.

M. I. Weinreich (3421), "Foreign Language and the New Humanism," Albuquerque Public School Administrators, April 28, Albuquerque.

Sympathy

To Roy P. Lambert (1544) for the death of his mother March 28 in Albuquerque.

To L. L. Lowe (4232) for the death of his brother April 2 in Detroit.

To Euliojo and Fernandez Sanchez (both 9411) for the death of their father April 13 in Belen.



SATELLITE COMPUTER system in Bldg. 836 is one of three small remote computers linked with the Control Data 3600 computer in Bldg. 880. Lois H. Payne (left) is shown at the Control Data 160-A computer as Mary E. Swaim (right) gives Catherine Tinsmith some punched cards.

Satellite Computers Increase Efficiency of 3600 Computer

Small remote computers in Bldg. 836, 806, and 880 have increased the efficient use of the Control Data Corporation 3600 computer in Bldg. 880.

During the past four years, Sandia has been using a satellite computer system where small remote computers send information and requests to one large central computer and receive answers from it.

The satellite computers forwarded 11-135 separate computation requests to the 3600 in February, an average operating month. The answers returned from the 3600 to the three satellites totaled 8,410,700 lines of print for the month. (For readers interested in expanding this figure, each line has from 120 to 136 characters.)

Primary function of the remote computers is the peripheral processing, such as transferring computing requests from punched cards to magnetic tape and then converting computed answers from magnetic tape either to punched cards or to printed page.

Along with providing many users in various parts of the Laboratory with ready access to the 3600 computer, the satellite system increases the 3600's output per unit of time. This system reduces the period between submitting a program and obtaining results, and less time is used in switching between problems than would be required if all the problems were delivered to the computer center.

The satellite system combines the 3600 computer as a central processor, a Control Data 3100 as the traffic controller, two Control Data 160-A satellite computers, and a Control Data 8090 satellite computer. The 3600, 3100, and 8090 computers are located in the same general area of Bldg. 880. One 160-A is in Bldg. 836 and the other in Bldg. 806.

The 3100 computer is the switching center which connects and disconnects the satellites to information channels either to accept requests or to supply answers. In addition to controlling this flow of in-

formation, it relieves the 3600 of some other functions.

The 3100's information structure is the same as the 3600, permitting either of them to read and write on magnetic tape at 800 bits per inch. A line printer and a card punch are attached to the 3100, permitting answers from both the special monitor system Sandia designed for the Control Data 1604 and from the Control Data supplied monitor system for the 3600 (SCOPE) to be recorded simultaneously.

A problem starts with the transfer of data from punched cards to magnetic tape at one of the remote stations. This card-to-tape operation usually includes several jobs which comprise a "batch." After the information is transferred to tape, the tape is rewound and the satellite notifies the 3100 controller that a request is waiting. As soon as the 3100 controller can service this request, it transfers the information from the tape at the remote station to the auxiliary memory of the 3600, either on magnetic tape or magnetic disks.

When a run is completed on the 3600, the traffic controller tells SCOPE (Control Data Corporation monitor programming system) the location of its next input. Input runs are given to SCOPE on an assignment scheme which gives each satellite station an equitable chance to input to the 3600. Each satellite is allotted a maximum of five minutes of 3600 computer time, or a maximum of 3000 lines of output, for each run.

Upon completion of a run on the 3600, SCOPE notifies the 3100 controller that it has an output tape to be listed. The controller's records indicate to which satellite station the output is to be sent and asks that satellite if it can accept an output tape. As soon as the controller gets an affirmative reply, it transmits the SCOPE prepared tape to another tape at the remote station where it is later printed and/or punched.

Speed capabilities of the system can be illustrated by using the 8090 satellite computer as an example. Punched cards are read at 1000 cards per minute, or a maximum of 80,000 characters per minute, and answers are printed at 1000 lines per minute, or approximately 128,000 characters per minute.

Patent Issued for Anderson-Lawwill Switch

A patent for an "Explosive Actuated Switch in which Contact Pierces Non-conductor" was issued March 1 to the Atomic Energy Commission in the names of Ronald C. Lawwill (former Sandian) and Harold L. Anderson (2546).

Messrs. Lawwill and Anderson, as members of Component Development Division 1312, modified the guided moveable plunger and interior insulation of a switch previously designed at Sandia.

Applied current causes an explosive actuator to drive a conductive plunger through a sleeve and through a two-stage insulation (Mylar), and imbed itself into a metal terminal block or "anvil." The bridge wire which ignites the explosive collapses the sleeve behind the plunger, preventing it from retracting, and insuring positive switch closure.

Two or more actuators may be coupled in parallel to increase reliability, and each explosive actuator and its terminal pin may be hooked-up in such a manner as to respond to a different external event or selection.

The patent is number 3,238,321.



BOTTOM OF THE SEA view of the bomb wrapped in its own parachute. The underwater photo was taken from one of the submersible recovery crafts. Object in left foreground is recovery craft's radar device. (Associated Press Cablephoto)

PAGE FOUR

LAB NEWS

APRIL 22, 1966

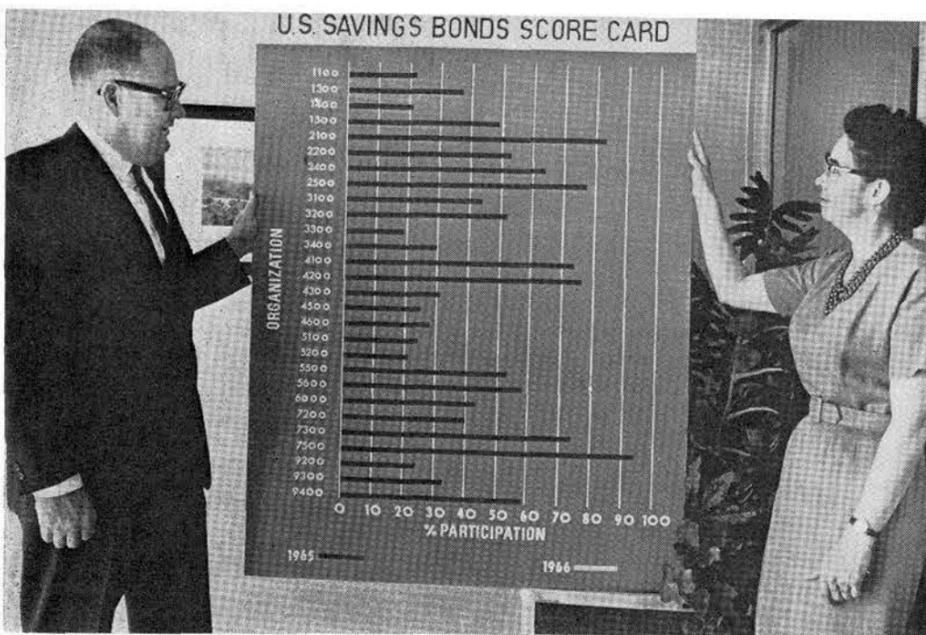
PAGE FIVE

LAB NEWS

APRIL 22, 1966



PATENT WAS ISSUED Mar. 1 for explosive actuated switch held here by H. L. Anderson (2546). The switch was invented by Mr. Anderson and former Sandian R. C. Lawwill.



SCORE CARDS telling the story of employee participation by organizations will be posted at entrances to Tech Area I during the coming U.S. Savings Bond Campaign. Bond Committee Chairman D. R. Morrison (5256) displays one of the boards with Janice Sharp (2234), committee member.

Supervisory Appointments



H. D. (Jack) SIVINSKI to manager of the newly created Planetary Quarantine Department 2570, effective April 16.

Jack joined Sandia in April 1957 and worked in the design and planning of testing facilities.

He was promoted to supervisor of a facility planning section, concerned with developing and evaluating concepts for environmental test facilities, in November 1960. He worked in this capacity until he joined the advanced systems research group in November 1964.

Before coming to Albuquerque, he was an instructor in metallurgy for two years at Iowa State University, where he received his BS degree in mechanical engineering in March 1957.

From February 1952 until June 1956, Jack was a research associate conducting research in synthetic aggregate made from bituminous shales at the University's Engineering Experiment Station. He also worked for a short time as a design engineer for Cushman, Inc., in Lincoln, Neb.

Jack was in the U. S. Army from December 1944 to May 1947 and again from July 1948 to September 1952. He was discharged as a first lieutenant.

He is a member of the American Society of Mechanical Engineers, and American Institute of Aeronautics and Astronautics.



CHARLES A. TRAUTH, JR., to supervisor of Systems Division 2571, effective April 16.

Chuck has been in mathematical research since joining Sandia in October 1962.

He received his BA degree in mathematics and physics from Kansas State Teachers College at Emporia, Kan., in June 1958 and an MS in mathematics from the University of Michigan in February 1960. Chuck was awarded a PhD in mathematics from the University of Michigan in February 1963.

He is a member of the American Mathematical Society, Society for Industrial and Applied Mathematics, Association for Computing Machinery, and American Association for the Advancement of Science.

ELVIS E. SKIDGEL to supervisor of Components and Instrumentation Section 8127-1, Telemetry and Instrumentation Systems Division, effective April 1.



Elvis joined Sandia's Livermore Laboratory in September 1957 and was assigned to a project engineering group for approximately three years. During the past five years he has been primarily concerned with telemetry development.

Immediately before coming to Sandia, Elvis attended Cogswell Polytechnical College in San Francisco where he received an associate degree in electronics engineering. He has also completed courses at Diablo Valley and Chabot colleges. Elvis is a member of Kappa Tau Sigma engineering honor society.

For four years, 1951-54, Elvis served in the U.S. Navy.



WILLIS J. WHITFIELD to supervisor of Systems Support Division 2572, effective April 16.

Willis joined Sandia as a nuclear physicist in July 1954 and worked in that capacity for about three years.

For two years he was a technical liaison representative before he transferred to advanced manufacturing development in June 1959.

He developed the laminar air flow concept for industrial clean rooms in July 1960 and filed a patent disclosure later that year. The first developmental clean room using the laminar flow principle was placed in operation in December 1961 and a patent was issued in 1964.

Willis received a BS degree in physics and mathematics from Hardin-Simmons University in January 1952. He also completed some post graduate work at George Washington University in Washington, D.C., and at the University of New Mexico.

From June 1944 to June 1946, he was in the U. S. Navy, most of the time in aviation ordnance developmental work.

He is a member of the American Society for Contamination Control and American Society for Testing Materials.



LESLIE E. ANDERSON to supervisor of Data Systems and Analysis Division 9227, effective April 16.

Leslie joined Sandia in July 1959. He was assigned to Flight Systems Design Division until August 1965 at which time he transferred to Data Systems and Analysis Division.

He received a BS degree in mechanical engineering from North Dakota State University in June 1959 and has done some post graduate work in mechanical engineering at the University of New Mexico.

From 1952-54, Leslie was with U. S. Army Intelligence and served more than a year in Japan.

He is a member of Tau Beta Pi, Pi Tau Sigma, and Phi Kappa Phi.



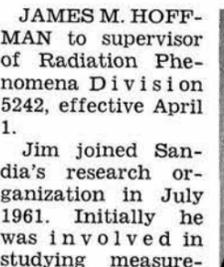
J. L. DOSSEY to a division supervisor in Advanced Systems Research Staff 5590, effective April 16.

Jim joined Sandia in June 1949 and worked at the Laboratory until January 1953 when he was given a military leave of absence.

From April 1956 to January 1958, he was a test administrator for the Research and Advanced Development Division of AVCO assigned to Kirtland AFB. In January 1958 he rejoined Sandia in the field test organization and participated in Operation Hardtack. Early in 1959 he was promoted to section supervisor of a weapon engineering group and transferred to advanced systems studies about a year later.

Jim received a BS degree in electrical engineering from the University of New Mexico in June 1949 and an MS in electrical engineering from UNM in June 1951. From 1952-62, he devoted his part-time efforts toward doctoral studies in electrical engineering at Stanford University, University of Maryland, and UNM.

He is a member of the Institute of Electrical and Electronics Engineers, Sigma Tau, and Phi Kappa Phi.



JAMES M. HOFFMAN to supervisor of Radiation Phenomena Division 5242, effective April 1.

Jim joined Sandia's research organization in July 1961. Initially he was involved in studying measurements and intensities of optical data gathered during Operation Dominic. For the past year he has been concerned with temperature measurements determined from molecular fluorescence in the upper atmosphere.

Before coming to Albuquerque, Jim was a General Motors' post graduate fellow at Ohio State University from September 1960 to June 1961.

He received a BS degree in physics from Wittenberg University in June 1951, an MS in physics from Ohio State University in June 1956, and a PhD in physics from Ohio State in March 1960.

From 1951-53, Jim served with the U.S. Army signal corps, primarily at Ft. Monmouth, N.J.

He is a member of Sigma Xi, American Physical Society, and the American Association for the Advancement of Science.

With Unique Tax Advantages

Savings Bonds Provide Safe, Sure Way to Achieve Financial Goals

How does your financial future look?

Most of us have the objectives of buying and improving a home, financing a college education for the children, building a dependable reserve or emergency fund, and preparing a supplemental retirement income.

Like most good intentions of the long-range type, there is a tendency to put off the necessary arrangements until mañana. And too many times, one dips into the savings account for some current purchase.

The key to any successful long-range savings program is consistent, regular deposits.

U.S. Savings Bonds, purchased through payroll deduction, is the easiest and most convenient way to provide this necessary key to successful savings.

And there are few investments which offer the unique advantages of Savings Bonds for specific goals.

The new interest rate, 4.15 percent compounded semiannually when held to maturity, makes U.S. Savings Bonds attractive for investment purposes, but the tax advantages give them an edge over other types of securities.

For the college education of children for example, Savings Bonds purchased in the name of the student during his early years can be cashed and the interest earned reported on his own income tax form using the college student's exemption. College students may earn up to \$900 annually before income tax is due. In most cases, no income tax would be due from the interest earned on Savings Bonds.

For retirement purposes, also, U.S. Savings Bonds offer a unique tax advantage.

Income from the interest earned on the Bonds which you purchase during your

working years does not need to be reported until the time when you cash the Bonds. By converting the E-Bonds into H-Bonds, the reporting may be delayed longer.

H-Bonds pay interest semiannually by Treasury check at the new rate of 4.3 percent after the first two interim payments, six months and one year after conversion. (These first two interim payments are at a slightly smaller rate.)

The point is that you have regularly saved E-Bonds by payroll deduction during your working years. You convert these to H-Bonds and receive a very good interest rate, and, so far, you've paid income tax only on the interest earned from the H-Bonds. When the H-Bonds mature, at the end of 10 years, the tax earned on the original E-Bond interest would be due, but at the lower tax rate during your retirement.

There are many other advantages to an investment program of U.S. Savings Bonds. They are absolutely safe—replaced at no cost to you if lost, stolen, or destroyed—and the return's guaranteed. The new rate of 4.15 percent will continue throughout the life of the Bond and through its extension period. It is not subject to market fluctuations.

Savings Bonds are fluid—they can be converted to cash at most banks and other financial institutions.

But as one Sandia employee put it, "Somehow, I'll borrow money before I cash my Bonds. Other savings plans have gone down the drain in the face of unexpected expenses, but the Bonds I keep. It is the one kind of investment that grows steadily month-after-month and remains, for me at least, intact."

Go-Go Specials, 'Caribbean Cruise' On Coronado Club Activity Calendar

Two go-go specials and a "Caribbean Cruise" are on the calendar for the Coronado Club during the next two weeks.

Following the seafood buffet at Social Hour tonight, the strong ones will go-go. The popular monthly adult go-go will blast off at 8:30 with the Tommy Kelly combo making the monkey, frug, watusi, slop, etc. music. No reservations needed, admission is free. All it takes is stamina.

The "Caribbean Cruise" event will be launched Saturday, April 30, at 7 p.m. with a West Indies buffet. Menu includes sweet and sour pork, chicken curry, baked banana, and other exotic goodies.

The Rhythmasters will provide the calypso music from 9 to 1. Cost to members is \$3.50, guests \$4. Call 264-4561 for reservations.

Teenagers will go-go Thursday, May 5, from 7:30 to 10:30 p.m. Admission is \$.25 per person. The Yachtsmen will be on hand with amplified guitars and a full book of go-go tunes.

Bowling

Coronado Bowling Club members will celebrate the end of the season with a party Saturday, April 30, in the Club's Eldorado Room. Roast beef buffet will begin at 6:30 p.m. followed by dancing to George Davies' Stardusters. Cost to Bowling Club members is \$1, guest \$2.50. Bill Weinbecker and Charlie O'Keefe are handling arrangements.



BONGOS and calypso music are drumming an invitation to join the Coronado Club's "Caribbean Cruise" Saturday, April 30. A West Indies buffet will be served at 7 p.m. followed by dancing to the Rhythmasters. Sol Chavez (4512) is the drummer.

Service Awards

20 Years

Continued from Page One

Deaths . . .

15 Years



R. W. Ambrose 4517 Sam Apodaca 4624 R. R. Bassett 2544 C. E. Katzenberger 9412 H. W. Moeding 4314
 F. J. Brown 4623 T. M. Clark 3463 G. L. Eggert 1123 H. A. Gelwicks 4221 Tomas Hernandez 4512 H. R. Holmes 7242
 I. H. LeValley 7213 D. K. McCoy 4131 L. M. Melick 1425 J. C. O'Neal 2411 B. D. Padilla 4513 J. L. Tischhauser 9420
 C. H. Weidman 4513 Marcel Weinreich 3421 D. W. Wood 1334

Computing Meet Papers

A number of technical papers by Sandians are being presented at the Spring meeting of the Rio Grande Chapter, Association for Computing Machinery, at Cloudfcroft, N. M., April 21 and 22.

The oral presentations include: "Computer Graphics as a Development Tool on a Printed Circuit Placement Algorithm" by D. D. Isett (7245); "Response of a Conical Shell to Impulsive Loading" by L. T. Wilson (1541); "Topographic Simulation as an Aid to Printed Circuit Board Design" by L. E. West (9424);

"Graphic Presentation of Salary History Charts by a Computer-Based System" by S. B. Gasser (9423); "Computer Graphic Representation of Large Plastic Deformation of Simple Structures" by W. B. Murfin (1541); "Low Level Flight Simulation Model" by E. A. Aronson (5263); and "Graphic Aid as a Tool for Hydrodynamic Computation" by D. B. Hayes (5623).

10 Years

Apr. 22-May 5

H. R. Guest 2126, J. A. Mauldin 2512, P. W. Romero 4613, E. W. Cook 9222, Betty F. McKinstry 3465, Edward Gonzales 4512, J. B. Miller 7513, Adan Trujillo 4615, Lillian C. Jackson 9423, M. C. Frettem 7255, V. G. Nelson 1131, R. E. Carlson 4214, D. G. Dykes 7334, W. J. Rogers, Jr. 9234, W. K. McCoy 9231, and Elizabeth A. Wells 9421.



Michael Zownir 4252

Planetary Quarantine

of the factors involved can't be measured or assayed, so we must find ways to predict them statistically," Mr. Trauth explained.

The systems studies group will receive technological assistance from Systems Support Division 2572, W. J. Whitfield, supervisor. "Verifying these mathematical models will involve designing new instrumentation for measuring low-level microbiological contamination as well as developing advanced methods and techniques for monitoring clean rooms. This activity is aimed at making possible the creation of more realistic mathematical models," he explained. Mr. Whitfield's division will also do clean room consultation at NASA centers.

The importance of the Planetary Quarantine Program was pointed out by Mr. Sivinski: "The Committee for Space Research (COSPAR) of the International Council of Scientific Unions has agreed to hold the planet Mars as an ecological preserve, in its pristine state, until the year 2021, unless it is contaminated by a manned landing. To maintain this condition, nations carrying out space programs have agreed to sterilize all planetary landers to the extent that there is less than one chance in 10,000 of a lander contaminating the planet.

"If evidence of evolving, existing, or past life on other planets can be found, it is hoped that it might provide researchers with valuable information for further biological studies. This is a chance which occurs once in history, not merely once in a lifetime."

Congratulations

Mr. and Mrs. C. J. Still (2412), a daughter, Shannon Lee, April 5.

Mr. and Mrs. John Elbert (7262) a daughter, Sara Christine, April 6.



John C. Borg, a Sandia employee for five years, died April 7 after a brief illness. He was 35. He was an industrial engineer in Product Data Control Division 2512 and was active in both the American Institute of Industrial Engineers and the American Society for Quality Control.

Survivors include his widow and his father, who lives in Winston-Salem, N.C.



James P. Seay, manager of Purchasing Administration and Services Department 4330, died April 19 after a long illness. He was 50.

Mr. Seay joined Sandia in May 1948 and was engaged primarily in Purchasing activities during his 18 years with the Company. He is survived by his widow and two daughters of Albuquerque; a brother, G. E. Seay (5130); a brother at Los Alamos; and his father and sister in Oklahoma.

Events Calendar

- April 22-24 and April 27-May 1—John Osborne's "Look Back in Anger," Old Town Studio, 1208 Rio Grande NW, 8 p.m. For reservations, tel. 242-4602.
- April 22-24—Ice Capades, matinees and evening performances, Civic Auditorium. For information, tel. 242-4404.
- April 23—TV actor-comedian Bill Cosby, UNM Cultural Committee. Johnson Gymnasium.
- April 25—Community Concert Series presents Pittsburgh Symphony Orchestra, William Steinberg, conductor. Civic Auditorium.
- April 28-30—Shrine Circus. Tingley Coliseum.
- April 30—Nizhoni Indian Dances, Johnson Gymnasium.

PAGE SEVEN

LAB NEWS

APRIL 22, 1966

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

- '59 FORD WAGON V-8, AT, PS, R&H, \$350. Hoban, 255-9254.
- 3-BDR., den, brick fp, DR, AC, cfa, carpeting, drapes, sprinklers, walled, garage w/office, carport, patio, \$18,000 FHA, 206 Bryn Mawr Dr. SE. Smith, 256-0375.
- ELECTRIC RANGE, 41" Deluxe Westin-house, \$50; refrigerator, 10 cu. ft., auto. defrost, \$45; double sink, cast iron, w/all fittings., \$25. Verardo, 255-6385.
- '59 OLDS, factory air, PS, PB, R&H, 6 wheels, 2 snow tires, \$500; car top carrier, steel, \$5; 2 gals. Prestone, \$1/gal. McClure, 256-0359.
- 3-BDR., 1 1/2 bath, garage, AC, walled, carpet, draperies, near schools and shopping, small down payment, assume GI loan. Whited, 298-3807.
- TRAILER AXLE, 3/4 ton, w/3 16" rims and tires, \$20. Gubbels, 299-8089.
- HOUSE on 1/2 acre, zoned C-1, corner of Bellamah and 8th N.W. Amador, 242-7728.
- BOY'S 26" Schwinn 3-speed bike w/lights and generator, \$35. Treibel, 256-0482.
- '65 JAWA motorcycle, rugged, quiet road bike, 500 actual miles, \$400; Stevens .22 cal. bolt action repeater, \$20; HO freight train set, \$20 Shock, 877-3728.
- '64 YAMAHA motorcycle, model YG1-K, 80cc, \$190. Sonnenberg, 299-3859.
- '60 FORD Galaxie Starliner. Hartman, 256-0532.
- MEN'S Hawthorne Medalist golf clubs, 2, 4, 5, 7, 9 irons; 1 and 3 woods, bag, balls, tees, wood covers, rainhood, \$60. Conrad, 299-5316.
- \$450 DOWN, no qualifying, 3 bdr., 1 1/2 bath, built-ins, carpet, AC, 10x40 patio, 5 mins. from Base, pitched roof, NE, \$13,750. Martin, 298-6644.
- '63 CHEV. pickup, 4-spd. trans., 6-ply tires, trailer hitch and brakes, 9000 actual miles. Chavez, 299-8194.
- RIFLE, .22 auto. w/4x scope; Underwood standard typewriter; TV; trade for .45 auto. pistol or other guns. Zaluaga, 344-1564.
- GERMAN SHORTHAIRED POINTER, field and obedience championship ancestry, proven on pheasant and quail, pick of litter. Tessier, 296-1025.
- \$1400 under FHA appraisal, 3-bdr., paneled den, fp, 2 full baths, hw/floors, patio, barbeque, NE Heights. Hunter, 298-2103.
- PHILCO RANGE, auto. temp. controlled oven, under glass broiler, deep-well cooker; Hotpoint portable dishwasher, full size. Ricker, 256-2678.

- '59 RENAULT DAUPHINE, \$300, complete engine overhaul, auto. electric clutch. Lobley, 344-7942 after 6.
- '63 TR-4, R&H, \$1400. Dicker, 265-7343 after 5.
- GAS RANGE, Roper, \$40; roll-away bed w/mattress, \$12. Sanchez, 242-4984.
- '64 AUSTIN-HEALEY Sprite, 16,500 miles, R&H, light blue. Carlson, 255-3128.
- '56 PONTIAC conv., red w/new white top. Chavez, 247-9966.
- SHAKESPEARE ROD, model 1579, reel, model 1577, \$20; Hurley Press ironer, \$50 or best offer. Conklin, 268-6050.
- 3-BDR., den, carpet, drapes, built-ins, oversized patio, landscaped, AC, cfa, \$800 down, assume 5 1/4% GI. Sanchez, 298-4487 after 5.
- ANTENNA TV, without mast, \$3 Burns, 1319 Dartmouth NE, 255-3737 after 5.
- '59 CHEVY BelAir 8, 4-dr., PS, \$350; '58 Plymouth station wagon 8, 4-dr., PS, PB, \$250. Abbott, 299-8860.
- '64 16 1/2' Aristocrat vacation trailer, self-contained, gas refrigerator, dual gas tanks, electric brakes, under-sealed, sleeps 4. Asturias, 299-4173.
- RANCH OAK twin beds, chest, half-price; Airway cleaner, new hose, \$10. Risk, 299-7205.
- 17' Fiberglass boat, convertible top, 80 HP Mercury motor. Glover, 877-3354.
- JAGUAR XK-E roadster, late '62 model, custom exhaust, chrome w/w, custom interior, vinyl top, new red lacquer paint, \$2500. Alves, 247-3707.
- 17" THINLINE TV, portable, \$60. Westman, 255-6048.
- 3-BDR., landscaped, FHA appraisal \$12,150, loan balance \$9700, will accept \$750 and take over my loan. Cope, 298-5864.
- PIANO, upright, original finish, \$175 or trade for player piano, working or not. Sander, 299-5761.
- ROBERSON 3-bdr., 1 1/2 baths, pitched roof, hw/floors, underfloor perimeter heating, AC, dbl. garage, 75' landscaped lot, \$16,000. Pousma, 9413 Euclid NE, 298-3864.
- PEDIGREE GERMAN SHEPHERD from the finest stock available. If interested in showing, it is yours at no charge. Villella, 298-7955.
- BUTANE refrigerator, \$35; electric refrigerator-freezer, \$30. Haskell, 865-7900.
- '50 CHEV. 4-dr., many new and nearly new parts, \$100. Guist, 299-9060.
- 6-70x15 TIRES (Sears 27 month) and tubes, less than 1000 miles wear, \$15 per tire and tube. Keith, 268-8805.
- MARE, almost 3 yrs. old, sired by registered Quarter horse. Nina, 256-1362 after 5.
- AVAILABLE FOR ADOPTION, three short-haired male kittens, housebroken. Johnson, 255-8851.
- '62 FORD GALAXIE 500 XL conv., top 2 mos. old, bucket seats, automatic, courtesy lights, etc., engine recently overhauled. Sanchez, 344-0638.
- KODAK PONY 35mm camera, leather case, Tower blower cooled projector, spare projector lamp, all for \$45. Stark, 299-5953.
- NEW Aqua-Spray sprinkler heads, cost \$2.49, sell for 25 cents; 10-year silicone masonry waterproofing, cost \$4.95, sell for \$2.50. Flowers, 282-3458.
- FOUR camper trailer leveling jacks; man's bowling ball; camper trailer spare tire and wheel; 4 jerry cans. McGarvie, 298-3364.
- 3-BDR. BRICK, drapes, carpet, 1 1/2 baths, many extras, NE location, \$14,200; '62 TR-4, fully equipped, \$1195. Wilson, 298-0049.

- '57 OLDSMOBILE, 4-dr. sedan, AT, brakes recently relined. Filusch, 299-5932.
- '55 CHEVROLET, 2 dr., R&H. Landavazo, 256-9638, or 265-4714.
- LOG CABIN, Horseshoe Springs area, Jemez Mountains, fp, electricity, Ponderosa Pines, \$4300. Hobart, 282-3983 after 5.
- '61 RENAULT Caravelle convertible, \$500 or best offer. Walter, 265-6829 or 265-0988.
- '60 PORSCHE CONV., sell for \$1500, \$200 below Book. Hitchcock, 247-1711, ext. 3405 weekdays only.
- DE WALT radial arm 9" saw, 2 hp motor, w/sabre saw attachment, \$145; utility trailer w/4'x6' redwood body, \$35. Duvall, 299-8744.
- MOSSMAN 3-bdr., 1 1/2 bath, 30' dbl. garage, AC, cfa, fp, near park-schools-shopping, take over 4 1/4% loan. Keith, 268-8805.
- PIANO, Starr Baby Grand; DKW, '63, white/grey, 2 dr. Erwin, 268-7978.
- ALUMINUM CAMPER, 9', w/stove and oven, \$200; school bus seats, your choice, \$5 ea. Breeden, 877-9703.
- JEEP MOTOR, complete, 4-cyl., recently overhauled. Himes, 636-2736.
- EARLY ANTIQUE SECRETARY, walnut, simple lins., glass doors above desk section. Kroghahl, 898-1369.
- '62 CHEVY II station wagon, 6-cyl., ST, luggage rack, \$800 or best offer. Davis, 298-5265.
- 16mm SOUND PROJECTOR, \$75; 4x5 Solar enlarger, \$15; Linhoff speed handle, \$7.50; dryers, flash-ups, tripods, tanks, straighteners. Stover, 256-2439.
- '58 FORD 6-passenger station wagon. R&H, ST, \$350; Montgomery Ward 20" gasoline powered rotary mower, \$25. Hugen, 242-3733.
- '63 CHEV. BEL AIR 4-dr., 283 V8, AT, PS, factory air, new battery, about 5000 miles on wsw tires, best offer over \$1300. Pollett, 298-6534.
- BOY'S 24" BICYCLE; child's play table, formica top; Hollywood bed frame; used tubeless tires, \$50x14. Wheeler, 256-6250.
- AMERICAN FLYER train set, complete w/whistling billboard, \$10. DeLollis, 299-5384.
- '66 FALCON, 289-V-8, standard 3-spd., 14" wheels, vinyl upholstery, carpet, visibility packer, tinted windshield, radio, 3000 miles, under warranty. Davis, 299-2172.
- 4 ACRES w/modern unfinished house, 2 wells, big garage, good title insurance, 1 mile east of Peralta School. Skelley, Rt. 1, Box 423 J, Los Lunas.
- ELECTRIFIED SINGER portable sewing machine, \$15; dresser, \$6; new Sears' car cooler, \$7; child's wooden booster chair, \$2. Driver, 299-2063.
- ELECTRONIC instruments, bowling outfit, cameras, radios, Thermofax copier, air rifle and pistol, encyclopedia, time switches, planimeter. Quinlan, 296-3336.
- CRAFTSMAN rotary mower, grass catcher included, \$35. Svensson, 344-7700.
- CONVERTIBLE, DeSoto, '49, \$110. Stixrud, 298-0478.
- VOLVO, '58, Graeber, 298-0662 after 5.
- GARAGE SALE: furniture, picture frames, toys, bikes, pictures, clothing, etc. 8907 Los Arboles NE, Sat. Apr. 23, 9 a.m.-3 p.m. McIlroy, 299-4977.
- FREE KITTENS. Webb, 298-8139.

- MOSSMAN Sacramento, 4-bdr., den, landscaped, 1 1/2 bath, plenty of trees, 1800 sq. ft. living area, 3506 Florida NE. Mattox, 268-5554.
- PIANO, reconditioned upright, bench included, \$100. Westbrook, 255-5429.
- BAYARD automatic radio controlled garage door opener, never been installed, best reasonable offer. Netz, 282-3607.
- 15 1/2' SEA KING BOAT, 40hp motor, heavy duty trailer, extras, \$1295 or trade for '63 or newer V-8 4-spd. pickup. Brown, 1205 June NE.
- VESPA scooter, '66 plates, \$49. Allen, 255-7406 after 5 p.m.
- '61 PONTIAC Tempest station wagon, deluxe model, low mileage, \$595. Holt, 298-5207.
- '65 1/2-ton pickup, 4-spd., 6-cyl., style/box. 16" wheels, heavy duty sprin's and trailer hitch, \$325 below NADA. Roh, 299-3749.
- MATCHING KROEHLER red TV chairs, \$30 for the pair. Christy, 2932 Hermosa Dr. NE, 265-0247.
- CONTEMPORARY MOSSMAN, 3-bdr., den w/fp, hobby rm., covered patio, landscaped, electric kitchen, 3501 Georgia NE, \$21,000. Mullin, 255-9194.
- 3-BDR., 1 1/2 baths, garage, workshop, near Sandia, \$14,500. Barker, 422 Espejo NE. 299-1483.
- DINETTE SET, large, 7-pc., extension, walnut colored \$50; Smith-Corona standard typewriter, \$50; 7x9 wool area rug and pad, \$35. Young, 255-9022.
- '54 OLDS 4-dr., one owner, R&H, PS, PB, AT, motor overhauled, wsw tires, new carpeting, \$175. Glass, 298-0842.
- PUREBRED IRISH TERRIER, 18 mos. old, male, shots, housebroken, good watchdog. Kershner, 299-6513.
- '65 IMPALA SS, 396 cu. in., positraction, tinted windshield, still under factory warranty, \$2200. Ashworth, 296-2855.
- '56 CADILLAC sedan deVillie, AC, auto. window-seats, etc., new upholstery on seats, 70,000 original miles. Jarvis, 298-1113 after 5 p.m.
- '55 PONTIAC 2-dr. HT, PB, PS, AT, rebuilt engine; has 20,000 miles, \$200 cash. Chavez, 345-0285.
- B-FLAT wood clarinet La Monte Grenatex; brown canvas golf bag. Walter, 256-1534 after 5.
- 3-BDR., 1 1/2 bath, brick house, AC, drapes, w/carpets, hw/floors, covered patio, sprinklers, cfa. Thompson, 7609 Morrow NE. 299-9053.
- 4-YR. OLD STUD HORSE, very gentle, \$275 or best offer. Montoya, 7756 Black Mesa Loop, 877-1779.
- '57 FORD convertible; 3-bdr. Roberson home w/den and dbl. garage. Umble, 298-3057.
- MOSSMAN, below FHA, 3-bdr., pullman bath, cathedral ceiling, appliances, carpet, drapes, fireplace, new paint, cfa, hw/f, AC, walled, patio. Honnold, 268-5628.
- '65 JAWA motorcycle, 125cc, \$325 or trade for good transportation car. Hawes, 429 Georgia SE, Apt. 5.
- '62 BUICK wagon, R&H, fac. air, AT, \$895. Stronach, 5500 Arvilla NE.
- 17" TV, table model, Silvertone, small size, \$22.50. Nogle, 299-3863.
- TWIN BED w/box springs, \$25; convertible crib/youth bed similar Ward's price 434, \$25. Janney, 268-8074.
- '60 CHEV. BELAIR 4-dr. sedan, R&H, AT, AC, \$625. Brock, 299-2934.

- '52 CHEVY, new battery. Henderson, 256-1355.
- BICYCLES: 26" wheels, one boys and one girls, \$10/ea. Baxter, 1610 Bayita Lane NW, 344-7601.
- '59 FAIRLANE 500, stick shift, OD; porcelain twin laundry tubs; apt. washer; about a 1918 Edison and records. Weaver, 242-5560.
- 4-BDR. HOLIDAY PARK, fireplace, carpet, built-ins, dishwasher, disposal, stove, refrig., water softener, sprinklers, other extras, no qualifying. Dubbins, 299-5562.
- 3 AKC registered red male Dachshund pups, will be 6 wks. old on Apr. 28, \$50 ea. Caudell, 299-0646.

WANTED

- BUNK BEDS, preferably of wood. Seligman, 298-1993.
- RIDER to Manhattan Kansas on May 20. Geilenfeldt, 265-0294.
- BICYCLE built for two, cheap. Ristine, 298-8383.
- PING PONG table and set, regulation size, folding w/casters. Sundberg, 299-2177.
- PLAYHOUSE, 6x6 or larger. Whittaker, 299-6523.
- FACTORY MANUAL on 1954 Oldsmobile; good home for German Shepherd; drop leaf kitchen set; ride or passenger to Denver. Villella, 298-7955.
- HIDE-A-BED, must be clean and in good condition. Bauer, 268-9735 after 5.
- RIDER for car pool from vicinity of Eubank and Candelaria to Gate 3. Hurley, 298-5250.
- USED refrigerator, good condition, not older than 9 years. Brock, 299-2934.
- RIDER to Indianapolis, Ind., help pay expenses and drive, leaving Albuquerque on May 27. Profit, 820 Ortiz Dr. NE.
- PING PONG table and set, would like folding type w/plyblend or wood top. Hayes, 298-4682.
- BABYSITTING in my home on weekdays, Princess Jeanne area, have references. Mautino, 298-6267.

FOR RENT

- CEMENT MIXER, \$3 first day, \$1 ea. add. day. DeZeeuw, 296-1003 or 298-5386.
- HOUSE FOR LEASE: modern, 4-bdr., located on North Highway 10. McFarland, 282-3276.
- FURNISHED APT., 2-bdr., AC, hw/floors, fenced yard, 424-428 Mesilla SE, \$75/mo. Zimmerman, 255-3183.
- 30'x35' GARAGE or hobby work area; also 12'x32' storage garage area, near Sandia. Villella, 298-7955.
- 15' TRAVEL TRAILER, sleeps 5, my personal trailer, reserve now for vacation, reasonable rental rate. Colp, 268-8035.

LOST AND FOUND

- LOST—Bifocal safety glasses, 5 keys in leather case, men's bifocal glasses w/dk. br. rims and reinforced at top rim; earring w/2 gold bars, earring w/cluster of crystal beads, Sheffer pen w/old top. LOST AND FOUND, tel. 264-2757, Bldg. 610.
- FOUND—2 sm. keys on large ring w/disc "Fur Row." gold curled leaves earring, safety glasses w/brown upper and silver lower rims, safety glasses in red leather case w/clip, gold cufflink, Lockwood bronze door key, silver door key, silver button earring, black and silver Papermate pen. LOST AND FOUND, tel. 264-2757, Bldg. 610.



SANDIA'S QUARTET of Certified Professional Secretaries display the poster on Secretaries Week, April 24-30. Left to right are Winifred Sandusky (6000), Josephine Hanna (4000), Betty Pickel (4300), and Helen Walsh (5140).

Sandia Secretaries Honored During National Secretaries Week

The week of April 24-30 has been proclaimed National Secretaries Week and the nearly 400 secretaries at Sandia Corporation will be among those honored.

For the past 13 years, National Secretaries Association (International) has cooperated with industry and management in paying tribute to the secretarial profession. During "their week" secretaries are given special recognition for the role they play in business, industry, education, and government.

The Albuquerque chapter of NSA will mark the occasion by sponsoring a Secretary of the Year luncheon April 23 at the Holiday Inn. The local chapter has 52 members. Sandia secretaries currently holding office include: Mavis Bowland (2533), recording secretary; Betty Sterling (2544), treasurer; Elizabeth Rainey (4220), general chairman for Secretaries Week; Jean Cates (3126), chairman, program committee; Helen Walsh (5140), chairman, Certified Professional Secretary committee; Ann Michele (4510), by-laws committee; and Josephine Hanna (4000), scrapbook committee.

Internationally, NSA has a membership of over 23,000. To be eligible to join, a woman must have at least two years of secretarial experience, and must be employed as a secretary. The association's purpose is to evaluate the standards of the secretarial profession through educational programs.

One of the NSA's activities is sponsoring the Certified Professional Secretary program. To become a CPS, a secretary must successfully complete a six-part examination on Personal Adjustment and Human Relations, Business Law, Business Administration, Secretarial Accounting, Secretarial Procedures, and Secretarial Skills.

At present 3330 secretaries from throughout the United States, Puerto Rico, and Canada have passed the examination. This includes 25 from New Mexico of whom four are now at Sandia: Josephine Hanna (4000), Winifred Sandusky (6000), Betty Pickel (4300), and Helen Walsh (5140).

The examination is given annually the first week in May at various colleges. Applications may be obtained from Helen Walsh.

D. J. Jenkins, manager of Organization and Manpower Development Department 3130, is a member of the Institute for Certifying Secretaries, which develops and administers the certifying examination, and is also an honorary member of NSA, International.

In recognition of Sandia's secretaries, S. P. Schwartz signed and issued the following proclamation.

Whereas, Governor Jack M. Campbell of the State of New Mexico has proclaimed the week of April 24 through April 30, 1966, as Secretaries Week, and Wednesday, April 27, 1966, as Secretaries Day in New Mexico, in accordance with international observances sponsored by the National Secretaries Association, I urge all employees to recognize and pay tribute to the contributions made by our secretaries of the Sandia Laboratories.

VEEP Workshop Will Start April 25, May 16

Two Value Engineering Education Program (VEEP) Workshops will be conducted in coming weeks, Elmer Devor, supervisor of Value Engineering and Cost Improvement Division 2563, announces. The 18th VEEP Workshop will be held April 25-May 6 and the 19th Workshop will begin May 16.

Persons interested in attending either workshop may call 264-5973 for additional information.

Two Employees Injured In Separate Accidents

Two employees were hurt in separate accidents which occurred during the past two weeks.

On April 7, a maintenance employee, preparing to clean some air conditioning filters, pulled a few from the top of a stack which was over his head. Because of the height of the stack, he didn't see a metal bucket that had been left on top of the pile. As he pulled the top filters from the stack, the bucket fell onto his face breaking his nose and his glasses.

He received treatment at Industrial Medicine Department 3320 and was hospitalized over night. He is now recovering at home.

On April 1, another employee suffered an injury in the Development Shops. He was helping a co-worker transfer a 40-pound part from a salt bath to oil-quench tank. As they turned with the part, the employee strained his back. After examination at Medical, the employee was referred to a specialist for further treatment. He has recovered and returned to work.

Authenticity Guaranteed As Englishman Directs Osborne Play

When John Gardner (3421) selected John Osborne's play, "Look Back in Anger" for presentation by the Old Town Studio, he secretly wanted to play the lead. Instead, he's directing the cast of five—four of them university students.

In a way, this play is a natural for John. It's not that he's an angry young man without a cause to fight for; it's merely that he was born and brought up in the area of England depicted in the play and knew actual people like the play's characters.

"In casting for the roles, I was interested in actors with good theatrical voices," John said. "One part calls for a variety of English accents—Cockney, Midland, and normal middle-class English—in addition to

that of an Englishman imitating a Texan."

In striving for authenticity in the settings, the director has an inside track. "I wrote to my father in England and asked him to send me local newspapers and other props, in addition to depleting our home of typically English items, such as a tea cozy," he added. "It takes the right props to depict the right atmosphere." All the action of the play takes place in a bed-sitting room in England.

The English comedy-drama will be presented April 22-25 and April 26-May 1. This is John's second stint as director for Old Town Studio; last fall he directed a modern version of the Greek drama "Antigone."

M. K. Linn Is Trustee For New Sandia School

An independent, college-preparatory day school for girls will open in Albuquerque next fall. Among those instrumental in advanced planning for the Sandia School is M. K. Linn, Director of Information 3400, who is vice president of the board and chairman of the academic committee.

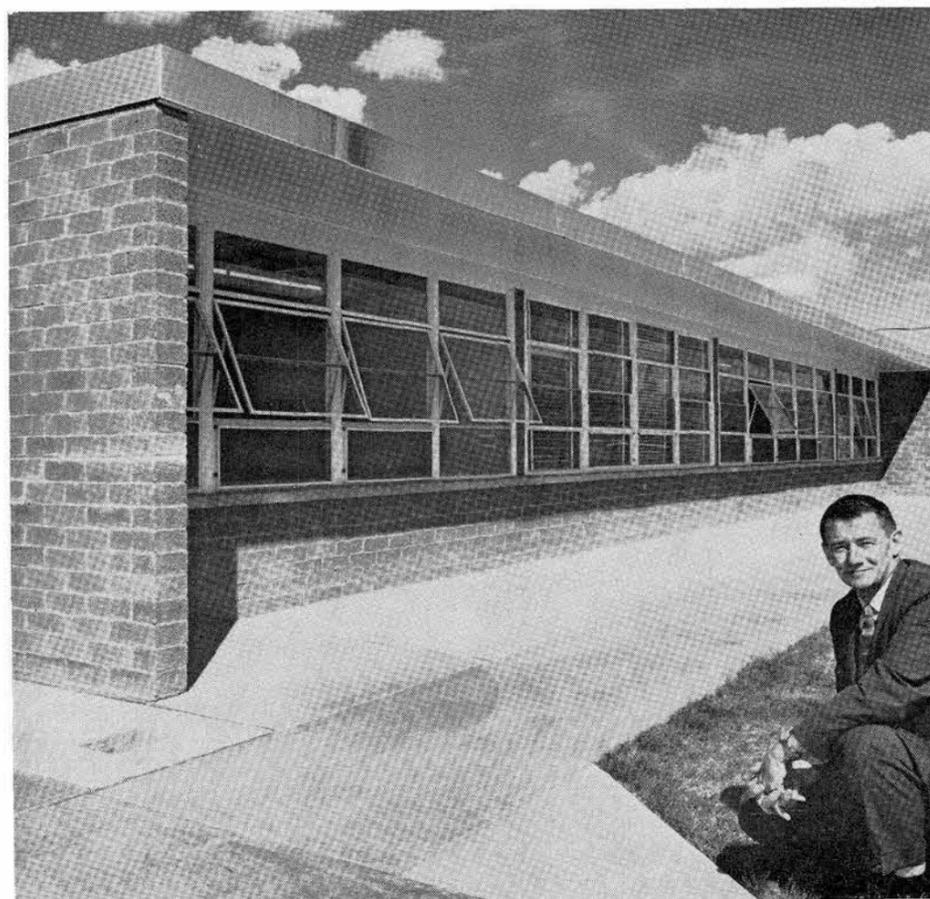
Initially the non-sectarian school will include instruction in grades five through ten. The other high school grades will be added the following two years.

"There has been a need for a girl's school of this type in New Mexico," Mr. Linn said. "It offers the advantages of a carefully selected faculty and small classes. We hope to make the school exciting—a place where students will develop a lifelong enthusiasm for learning."

The Sandia School will occupy the buildings at 5640 Edith Blvd. NE which have been used by the Albuquerque Academy for Boys (which will move to a new location). The Academy's board (of which H. T. Stump, 5590, is a member) has leased their campus to the new school for a token sum: thus helping the Sandia School get underway. The trustees interviewed applicants for the school and have selected the Reverend Paul G. Sanders as Headmaster, and established broad policies.

One of the aims of the school is to consider the personal guidance of each girl of equal importance with her academic guidance in that one is instrumental to the other. The curriculum takes into account College Entrance and National Merit examinations. Through the tenth grade, all students will take the same subjects: English, Language, Mathematics, Science, History, Art, and Music.

Entrance examinations for the Sandia School will be held this spring and summer.



MODERN CLASSROOMS are being prepared at the new Sandia School for girls which will open in the fall. Max Linn (3400) is one of the School's trustees and is chairman of the academic committee.

Sandia's Safety Scoreboard

Sandia Laboratory:

12 DAYS

420,000 MAN HOURS

WITHOUT A
DISABLING INJURY

Livermore Laboratory:

111 DAYS

569,700 MAN HOURS

WITHOUT A
DISABLING INJURY