THE WHITE HOUSE

WASHINGTON

March 29, 1963

Dear Mr. Schwartz:

My visit to the Sandia Corporation was, indeed, a memorable one, and I regret that, through an oversight, I did not earlier express my sincere thanks to you for your efforts in making this a very informative and worthwhile inspection tour.

I particularly appreciate your excellent briefing on the work being done on the design, development, and test of bomb and warhead components. This and other briefings has given me a much keener insight into the complexities and problems involved in these most significant undertakings. More importantly, it has given me a greater sense of appreciation -- and respect and admiration -- for those involved in this important work.

I am especially mindful of the great amount of effort which goes into the preparation for such a visit, and I would be grateful if you would convey my thanks and word of commendation to those responsible for a well-organized and most fruitful trip.

With kindest regards,

Sincerely,

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

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VOL. 15, NO. 8 — Published every other Friday for the employees of Sandia Corporation, contractor to the Atomic Energy Commission — APRIL 12, 1963

NATIONAL SCIENCE FAIR-INTERNATIONAL — Theme for the Fair, which will be held in Albuquerque May 6-11, is the above painting carrying the words of Robert Browning, "Ah, but a man's reach should exceed his grasp, or what's a heaven for?" The painting is a work of Paul Morris Wright, Corrales, N. M., artist.

National Science Fair to Be In Albuquerque Next Month

On May 6, the National Science Fair will open at Albuquerque's Tingley Coliseum, an event marking the climax of a year and a half of preparation by science students and teachers through the country, by Albuquerque citizens, by members of local businesses, and by employees of Sandia Corporation.

The theme for the event — the first National Science Fair in Albuquerque's history—is vested in a quotation by the Victorian poet, Robert Browning: "Ah, but a man's reach should exceed his grasp . . . Or what's a heaven for?"

Over 400 students from throughout the United States and from the free countries of the world will attend the Fair. They are the finalists from state and regional Science Fair competition. Some are the sons and daughters of military personnel stationed overseas.

Student exhibits are scheduled to be set up by 6 p.m., Tuesday, May 7. Judging of the exhibits will take place May 8, and the exhibits will be open to the public beginning at 8 a.m., Thursday, May 9. Awards will be made Friday evening, May 10, at an awards banquet at the University of New Mexico Student Union Ballroom.

The Fair is sponsored by the New Mexico Institute of Mining and Technology and the Albuquerque **Journal**, and is administered by Science Service, Washington, D. C. The advisory committee for the Fair is chaired by Dr. E. J. Workman, president of New Mexico Institute of Mining and Technology, and includes S. P. Schwartz, President of Sandia Corporation, and R. B. Powell, Sandia's Vice President — Personnel 3000.

J. D. Hopperton, Director

Chairman and local director of the National Science Fair is Dr. J. D. Hopperton of New Mexico Institute of Mining and Technology. Dr. Hopperton is also chairman of a working-steering committee which includes committees on exhibits, tours, transportation, publicity, communications, judging, hospitality, and catering.

Sandia Corporation's primary responsibility is in the area of Fair exhibits. The exhibits will be presented in Tingley Coliseum, and Sandia is responsible for setting up physical facilities for the exhibits. Chairman of the exhibits committee is J. W. Galbreath (3430), assisted by D. E. Irvin (3433), and J. C. L. Leslie (3433-1). Basic designs for all of the promotional material and other printed matter for the Fair were prepared by Mr. Leslie and Sandia's Graphic Arts Department 3460.

Serving on the Albuquerque publicity committee for the Fair is T. B. Sherwin (3431).

Judges for the Fair from Sandia Corporation include C. E. Abraham (5422), W. H. Bradford (5422), R. P. Clark (1323), R. G. Elsbrock (3211), E. G. Franzak (1423), R. C. Hildner (5422), F. P. Hudson (5411), S. C. Levy (1323), Mrs. M. G. Mayes (1314), D. R. Morrison (5426), W. B. Pepper (7134), J. A. Schatz (5426), B. K. Seeley (1122), and Mrs. Ann W. Shiver (5426). Judges for the Fair have had previous experience in judging Science Fair exhibits on the state and regional levels.

In conjunction with the Fair, the New Mexico Academy of Science is sponsoring the National Science Education Exposition and Seminars. Irving Auerbach (5153) is program director, and S. P. Schwartz is on the advisory committee.

The Exposition, consisting of educational exhibits presented by scientific and business organizations throughout the country, will be presented in the hobby building

(Continued on Page Three)

Engineer Conducts Training Course At Pantex Plant

R. W. Berger, of Quality Control Engineering Section I (2561-1), conducted a week-long course in basic statistical quality control at Pantex Ordnance Plant in Amarillo, Tex., Mar. 11-15.

The course was designed to introduce manufacturing and inspection personnel at Pantex to statistical methods for improving manufacturing processes, and for evaluating product quality on a sampling basis. Nine employees of the Atomic Energy Commission and seven contractor employees attended Mr. Berger's classes.

He is a 1958 graduate of the University of Nebraska with a BS degree in mechanical engineering. He received an MS degree in industrial engineering from Kansas State University in 1962. He is a member of the American Society for Quality Control and the American Institute of Industrial Engineers.

ASTME Installs New Officer Group

Six Sandians were installed as officers of the American Society of Tool and Manufacturing Engineers during the technical society's annual dinner-dance on Mar. 23.

James S. Reese (2452) took office as chairman and Frank Kite (7112) was given the oath of office as secretary. Others accepting appointed offices were: G. L. Morrisroe (2652) and E. M. Gieseker (2631), for Program; J. F. Hammerstran (2452) for Membership; and C. L. Stoner (2413) for Technical Publications.

Rudy Sadler Will Serve On Discussion Group for National Relay Meeting

Rudy C. A. Sadler (1432) will be a chairman of group discussion for one of the sessions of the 11th National Conference on Electromagnetic Relays, April 23-25. The conference is sponsored by the National Association of Relay Manufacturers and the School of Electrical Engineering, Oklahoma State University. The meeting will be held at Stillwater, Okla.

Sandia Engineers on Environmental Sciences Institute Program

W. A. Gardner, Director of Environmental Testing 7300, will serve as technical program chairman for the Institute of Environmental Sciences 1963 Technical Meeting and Equipment Exposition to be held Apr. 17-19 in Los Angeles.

The meeting will have as its theme "Bridging the Gap" between an understanding of physics and the engineering applications.

A. W. Snyder, manager of Radiation Effects Department 5320, will be chairman of a session on "Electronic Equipment Performance in Nuclear Radiation Environments." Papers will be presented on effects on electronic equipment materials, properties of irradiated piece parts, and performance of irradiated electronic equipment.

"BOSS OF THE YEAR" was the title bestowed on R. J. Hansen, Director of Development Shops, by members of the Albuquerque chapter, National Secretaries Association during their annual banquet. To win the coveted crown, "boscar" and certificate, Mr. Hansen had to qualify as a "person, boss, and citizen" with his secretary, Edith Blum. Sandia's only previous "Boss of the Year" was R. P. Stromberg (1322) in 1959.

Editorial Comment

Cancer Crusade—More Than Money

Throughout the month of April, the Sword of Hope will be prominently displayed in communities across the country, as volunteers of the American Cancer Society seek funds to carry on the nation-wide fight against cancer. The Bernalillo County unit of the ACS is represented in the Sandia Laboratory Employees' Contribution Plan, and during the year, Albuquerque employees of Sandia Corporation will contribute some $8000 to the county unit.

This is a substantial sum, and one in which we can take pride. But don't be irritated if one of your neighbors rings your doorbell next week during the annual house-to-house cancer crusade, even though you may be displaying your ECP sticker. The volunteers have been instructed to try to contact **everyone** to leave the educational material, although they are not to ask for a contribution where the ECP sticker is displayed.

Sandia employees have only to look at the record to realize their personal interest in learning all they can about cancer, and in doing what they can to help combat this dread disease which takes more lives annually than any other disease except heart failure. Since 1949, at least 30 Sandia employees have died of cancer, and many dependents of employees have also succumbed to cancer and cancer-related diseases: leukemia, Hodgkins disease, etc. Over the year, cancer will strike two out of three families.

So take the leaflet the Cancer Crusade volunteer will hand you, and read it carefully. Learn the seven danger signals of cancer, and get a physical checkup regularly. Of every six persons who get cancer today, four will die and two will be saved. The number saved could be increased to three, or 50 per cent, by early diagnosis and treatment, and might be raised to a much higher percentage if a "breakthrough" is achieved in treatment.

You Think You Can Spell?

Reprinted by permission from the Blue Bell, publication of the Bell Telephone Company of Canada

Probably not one person in a hundred can spell these five words correctly: **sacr-l-gious; rar-fied; synon-mous; restaura-teur;** and **lia-son.**

Are you the one in a hundred? The correct spellings are **sacrilegious; rarefied; synonymous; restaurateur** (no n); and **liaison.**

Now that you may be feeling a little depressed, you're probably wondering: "Well, how important is good spelling, anyway?"

One answer is given by Newman B. and Genevieve B. Birk of Tufts College, in their book **Understanding and Using English.**

"Spelling is important," they say, "because it is often the first basis on which a writer is judged . . . (Many) readers respond unfavorably, with irritation, disrespect, and mistrust, to the writer who cannot spell."

They go on: "Conspicuously poor spelling is serious . . . because it suggests that the writer is unfamiliar with printed material, or unable to learn what most educated people learn without difficulty, or both . . . To many people, spelling is an index of the writer's education and intelligence."

You yourself can remember how miffed you were the last time someone spelled your name wrong. Imagine the embarrassment of the **Reader's Digest** recently when, on the cover of the magazine, it spelled Charles Lindbergh's name as Lindberg! Socony Mobil Oil Company has even begun an advertising campaign to acquaint the public with the fact that "Socony-Mobil" with a hyphen, is incorrect, as are "Soconey Mobil" and "Socony Mobile." Any newspaper or magazine that misspells the company name may receive a polite note pointing out the error.

Now, it's all well and good to praise the benefits of proper spelling. The hitch is that spelling is a complicated and tricky business.

American spellings differ in England and sometimes in Canada. **Honor** is **honour, anemia** is spelled **anaemia, fiber** is **fibre, plow** is **plough, connection** is **connexion, judgment** is **judgement, jail** is **gaol,** and so on.

And in America, dictionaries disagree. Some people have written **Mafia, largesse,** and **dog-eared** all their lives, and would be surprised to learn that Merriam-Webster dictionaries prefer **Maffia, largess,** and—of all things— **dog's eared.** The word **pre-eminent** is spelled in three different ways by three American dictionaries: **pre-eminent; preeminent** (without the hyphen); and **preeminent** (with a diaeresis over the second **e**).

No wonder that even a writer as well known as C. P. Snow, author of **The Affair,** can write a book **(The Conscience of the Rich)** in which he misspells two words in two consecutive sentences! ("Charles took the chance to smoothe the party down. He acted as impressario for Mr. March and led him on to his best stories." **Smoothe** should be **smooth, impressario** should be **impresario.)**

But don't get discouraged: You can still improve your spelling. Here are some rules to follow:

1. Make a list of the words you continually misspell — words like dictionary, inoculate, accommodate, accumulate, bizarre, innocuous, independence. Practice writing and rewriting them until you get them down pat.

2. Do the same thing with a list of difficult words that someone else has compiled—to be furnished in this article.

3. If you continually misspell certain words, check your pronunciation. A person who says **libery** for **library, idear** for **idea, athaletic** for **athletic,** and **barbituate** for **barbiturate** is likely to write them as he says them.

4. Get acquainted with some of the rules of spelling. The only trouble here is that for many rules there are many exceptions. Take the verse "I before **e**/ Except after **c,**/ Or when sounded as **a,**/ as in **neighbor** and **weigh."** You probably learned that in grammar school. Well, there is no Santa Claus. Exceptions to the rule include **weird, weir, leisure, seize, either, surfeit, sheik, plebeian, reign, sovereign, height, deity,** and even **financier, specie, species** and **science.**

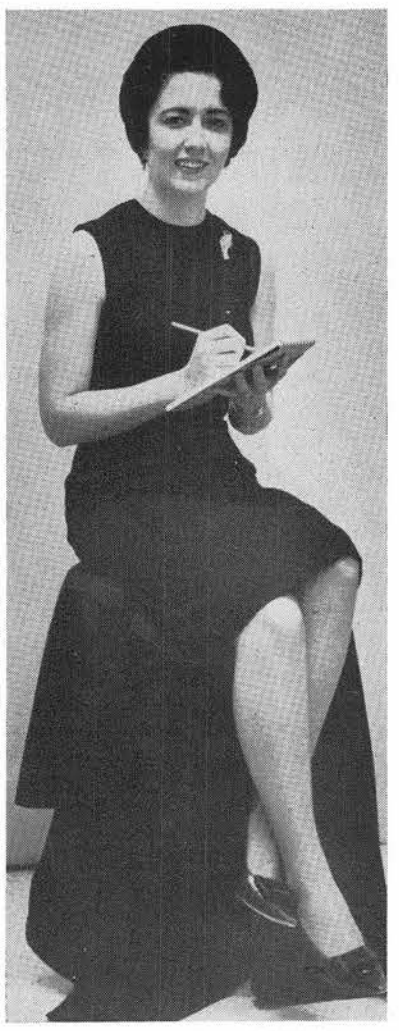
Here's a rule that's invariable. Only three words in the English language end in **-ceed: exceed, proceed, and succeed.** Only one ends in **-sede: supersede.** All the rest end in **-cede,** like **accede, recede, concede,** etc.

One final rule: When in doubt about which vowel to use, look for a related word in which the vowel is accented. Say you don't know whether the correct spelling is **ecstesy** or **ecstasy.** You find a related word—**ecstatic** — and because **ecstatic** has an **a,** ecstasy must have an **a.** Or take the word **grammar.** Or is it **grammer**? The related word **grammatical** shows that an **a** is required.

But before you start out independently to improve your spelling, let's see how well you spell now. Here are 20 difficult words; if you get 15 right, you're pretty good already. A dash may mean that no letters are required, that one letter is required, or that more than one letter is required.

1. Travel-er. 2. Permiss-ble. 3. Benefit-ed. 4. Veng-ce. 5. Supression. 6. Irresist-ble. 7. Pen-uin. 8. Mischie-ous. 9.. Attend-nce. 10. Chang-ble. 11. Paral-el-ed. 12. Question-aire. 13. Str-t-laced. 14. Phar-h. 15. Te-totaler. 16. As-asinate. 17. K--v, premier of Russia. 18. Socon-y Mobil- Oil Company. 19. Guer-i-la. 20. Vocal c-ords.

Answers: traveler (preferred), permissible, benefited, vengeance, suppression, irresistible, penguin, mischievous, attendance, changeable, paralleled, questionnaire, straitlaced, Pharaoh, teetotaler, assassinate, Khrushchev, Socony Mobil, guerrilla (preferred), vocal cords.



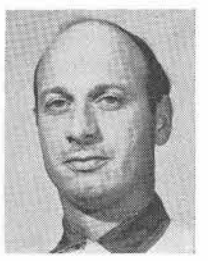
Marilyn Becker (4135-2)

Take a Memo, Please

A common misconception is that accidents always happen to the "other fellow."

Irvin Lee Gasser Died April 4

Irvin Lee Gasser, an electrical engineer in Survey Division 7534, died Apr. 4 after a lengthy illness. He was 37.



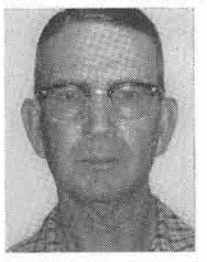
Mr. Gasser had been with Sandia Laboratory for eight years.

Survivors include his widow, a son Jeffrey, and two brothers, Sidney B. (3451), and Max Gasser of Kansas City, Mo.

After funeral services here, the body was sent to Oklahoma City, Okla., for interment.

G. D. Edwards Died April 1

George D. Edwards, of Labor Support Section 4575-1, died Apr. 1 following a lengthy illness. He was 59.



Mr. Edwards had been with Sandia Corporation since December 1955. For the previous 28 years he had been a rancher in Curry County.

Survivors include his widow, Velma (4574), his daughter Geraldine, a son-in-law, George H. Conrad (1122), and a granddaughter.

Nothing Like A Good Breakfast to Make Day More Pleasant, Productive

by S. P. Bliss
Sandia Corporation
Medical Director

For years there has been great concern among the medical, nutrition, and public health authorities about the skipping of the morning meal by the American public. Nation-wide surveys have shown that breakfast is the most neglected meal.

Cereal Institute, Inc., has fostered scientific research over a wide area of interests concerned with the problems of breakfast. They have studied the problem over a period of ten years. This study, which involved 121 people, led to the following conclusions.

The omission of breakfast results in decreased efficiency in the late morning hours, which is reflected in poor physiologic performances.

The omission of breakfast was demonstrated to result in poor attitude toward school work and to detract from scholastic attainments.

Coffee alone is not a good substitute for breakfast, since efficiency in the late morning hours is less than when a basic breakfast is eaten.

The content of breakfast is not a determining factor in the efficiency of breakfast so long as the morning meal is basically adequate from the standpoint of its nutritional content.

The basic breakfast, defined as providing one-fourth the daily caloric requirement and one-fourth the daily protein allowance, is superior in maintaining efficiency in the late morning hours, when compared to either larger or smaller morning meals.

The importance of protein in breakfast was studied on the basis of the part which it played in the maintenance of the blood sugar above the fasting level in the late morning hours. The investigation showed that 20 to 25 gm. of protein were adequate in this respect, 15 gm. protein were on the border line, while 10 gm. protein were inadequate to maintain the blood sugar significantly above the fasting level in the late morning hours.

In addition, it was shown that protein from animal sources, protein from plant sources, and mixed protein were equally effective in maintaining the blood sugar significantly above the fasting level in the late morning hours.

No Diet Help

The omission of breakfast is no advantage in a weight reduction diet regimen. In fact, it is a disadvantage in that those who omit breakfast not only accentuate their hunger, but also suffer a significant loss of efficiency in the late morning hours.

A bedtime snack consisting of cereal, milk, and sugar is useful for alleviating hunger both in the late evening and early morning hours. This is especially true in the case of those persons who have a tendency toward omitting breakfast, or eating a small morning meal. The contribution which the cereal and milk snack makes, lies not only in the calories provided, but also in the protein which it supplies.

The responses of the aged to the various breakfast regimens studied established the fact that for the most part, the same nutritional principles apply to the aged and young alike, and that the aged are eager and capable of eating a nutritionally sound breakfast if they are properly motivated, and if it is made available to them.

The utilization studies involving nitrogen, calcium, phosphorus, and iron showed that from a metabolic standpoint the content of the basic breakfast and the breakfast regimen did not significantly alter the utilization of these essential elements.

During the course of the studies on the role of breakfast in the diet regimen, an adequate breakfast, designated as a basic breakfast, was established. The basic breakfast is defined as one which provides one-fourth the total daily caloric requirement and one-fourth the total daily protein allowance. The basic breakfast is designed as a guide by which a nutritionally adequate breakfast can be calculated for any individual, by adjusting it both calorie-wise and as to the protein allowance. This adjustment is made on the basis of the nutritional requirements necessary to maintain any desired nutritional level.

A basic breakfast consists of fruit or fruit juice, one or two eggs or lean meat, such as bacon and ham, and toast. Cereal may be substituted for the eggs.

More Work Capacity

The data relative to work capacity with no breakfast and a mid-morning break showed the following:

All subjects did significantly more work when the dietary regimen included an adequate breakfast than when it was omitted.

The addition of a mid-morning break when an adequate breakfast was eaten resulted in no advantage as far as maximum work output was concerned.

The addition of a mid-morning break to a dietary regimen which omitted breakfast showed a significant advantage for 45 per cent of the subjects, in maximum work output.

The data seem to indicate that an adequate breakfast is better economy as far as capacity to do work is concerned than the substitution of a mid-morning break for breakfast.

Congratulations

To Mr. and Mrs. George Wallace (4111-3) a daughter, Wendy, Mar. 28.

To Mr. and Mrs. David C. Schultz (1332) a son, David Charles Jr., Apr. 1.

To Mr. and Mrs. Merlen Manteufel (7212) a daughter, Nancee Lee, on Mar. 13.

To Mr. and Mrs. Paul Hafley (4411-1) a son, Paul Matthew, on Mar. 24.

Sympathy

To Mark Elich (2313-1) for the death of his wife, Sylvia, Mar. 25.

To S. H. Peres (3133) for the death of his father in Passaic, N. J., Apr. 2.

To Ruth Simpson (3450) for the death of her mother, Mar. 20.

To Norman Smith (3451) for the death of his father-in-law, Mar. 28.

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Unusual Instruments Help in Work of Opto-electronic Lab

Three unusual instruments are being used in the new Opto-electronic Laboratory of Electron Tubes and Switch Division 1431. Valuable tools for the development of special opto-electronic components, the instruments are an infrared detector laboratory console, a monochromator analyzer, and a "lab-built" laser.

Headed by Charles E. Bates, the Lab staff is developing light modulators, light sources, and detectors. Of current interest is an investigation of the characteristics of gallium arsenide and gallium phosphide as sources of both monochromatic and coherent light. Edwin D. Machin and Eugene G. Aschettini are Staff Assistants in the Lab.

Part of their work is a continuing evaluation of commercially-available electro-optical devices. The infrared detector console is used to analyze performance of various optical detectors reacting to visible light, ultra violet rays, and infrared. A built-in "blackbody" in the console gives a precisely known and controlled standard to measure device performance.

The console is used to evaluate heat-sensitive detectors, such as thermocouples and bolometers, and photon-sensitive devices. These quantum detectors are classified as photo-conductive detectors, photo voltaic, and photo-emissive devices.

Infrared Rays

All objects emit infrared rays which increase or decrease as temperature varies. The blackbody standard in the console (a carefully-calibrated biconical cavity surrounded by a mass of insulating material) can be accurately temperature controlled from 100 to 1000°C while the infrared detector devices are undergoing performance measurement. Spectral response, photoconductor, and bolometer resistance can be measured as well as static "noise" generated within the detector.

The monochromator analyzer provides the Lab with a source of monochromatic light radiation to measure response of detectors or transmission qualities of various materials. Several light sources can be used with the monochromator. The source light is separated by two prisms until the desired wavelength is isolated. The device undergoing tests is exposed to this wave-length and its performance is measured against the known quantity of the source.

In addition to detector devices, the staff uses the monochomator to examine the absorption or transmission qualities of semiconductor materials, ferroelectrics, and various filter and window materials.

The laser (light amplification by stimulated emission of radiation) is a light-generating device developed by Bell Telephone Laboratories, and others. Lasers produce a thin, pure, hot beam of coherent light.

The Opto-electronic Lab was examining the light modulation qualities of germanium when the need for a laser became apparent. Germanium is transparent to some infrared wave lengths and allows the infrared waves to pass easily as visible light passes through glass. However, if electrical current is injected into the germanium, the infrared transmission is affected, or modulated. The amount of current passing through the germanium provides a form of control over infrared transmission.

Mr. Bates suspected, also, that the position on the face of the germanium at which infrared rays entered the germanium affected transmission qualities. To check this idea, he needed a highly collimated source of light. A laser would provide it.

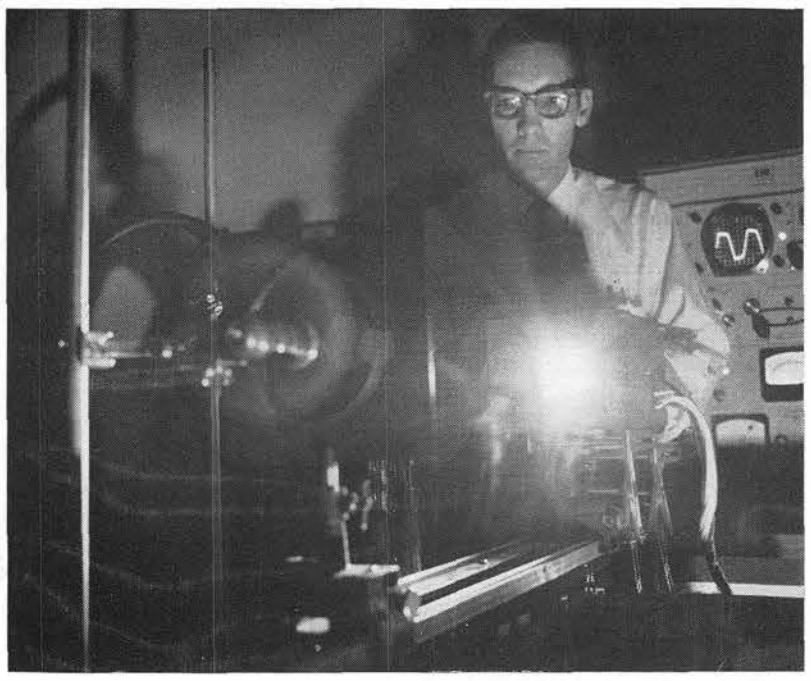
Laser Ruby Rod

Heart of most lasers is a ruby rod with a coating of silver on both ends. When exposed to bright bursts from electronic flash lamps, electrons inside the rod are raised to a higher energy level. When sufficient electrons have been excited, the electrons drop back to their normal energy level, and in doing so, emit a burst of red light. This in turn stimulates other excited electrons into emitting red light. This light emerges as a tiny intense beam from one end of the ruby rod and lasts only milliseconds.

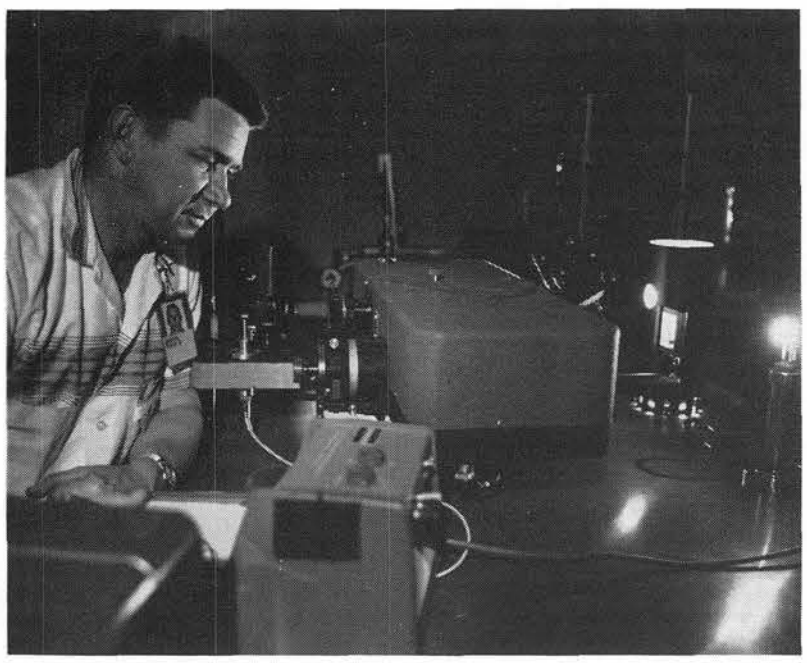
Mr. Bates substituted a calcium tungstate rod for the ruby rod to produce primarily infrared emissions. He obtained several flash tubes and a condenser bank and built his own laser.

Aiming the thin laser beam at various positions on the germanium did produce variations in its transmission qualities. "This knowledge may or may not be valuable," Mr. Bates said, "depending on the application. It's just one more bit of information collected about opto-electronic phenomena."

The Lab personnel have assisted in the development of a high intensity infrared light source and various light modulators, sources, and detectors. The group is available to Sandia organizations for consultation on opto-electronic problems.



LAB-BUILT LASER (light amplification by stimulated emission of radiation) produces a thin, pure, hot, beam of coherent light. Charles E. Bates used the laser to check a theory about infrared transmission.



MONOCHROMATOR ANALYZER is used by Ed Machin to evaluate light detector device. The monochromator's prisms isolate thin wave lengths of light which are used to compare against the device performance.

INFRARED DETECTOR CONSOLE is used by Gene Aschettini to analyze performance of various optical detector devices reacting to visible light, ultra violet rays and infrared. A built-in "blackbody" in the console gives a precisely known standard to measure device performance.

Nuclear 'Know-How' Fed to Industry by AEC Contracts

The Atomic Energy Act of 1954 made it possible for private enterprise to operate in the atomic energy field. Today, private industry can provide nearly all necessary materials and services for civilian uses in the nuclear energy program. This article, one of a series, tells of the nuclear industry.

Before 1954, one major segment of the Atomic Energy Commission program in private hands was the mining and milling of uranium ore. When the Commission took over in 1947, the United States was relying on imported ore, principally from the Congo, for most of its needs.

An intensive program was launched to stimulate private prospecting for uranium. Many deposits were found, and soon a full-fledged "uranium rush," frequently compared to the California gold rush of 1849, got under way. The result was that, in 1954, the United States became the world's largest uranium ore producer.

Since 1957, domestic production and reserves, together with commitments for foreign ore purchases, have provided ample supplies to meet foreseeable requirements. Peak U.S. output came in 1961, when 17,000 tons of uranium oxide were produced. Private estimates put the investment in mines and mills in this country at about $350 million.

The "know-how" of manufacture, processing, and use of nuclear materials, reactors, reactor components, etc., was fed into U.S. industrial channels through the system of contract operation of AEC facilities. This system, started by the wartime MED, has been continued and expanded by the Commission.

Normal declassification of technical data adds constantly to useful information on nuclear applications available to manufacturers and processors. A safeguarded program for access to some kinds of still-classified data also stimulates development of the new nuclear industry.

Current employment figures show that there are fewer than 7000 employees on the AEC payroll, but operating and construction contractors' employees number 121,000. (Figures as of Aug. 31, 1962.) Industrial and academic contractors operate all major AEC plants and laboratories and in turn subcontract much of the work.

Private enterprise did not have much leeway, however, until enactment of the Atomic Energy Act of 1954. For the first time, under the new law, private ownership of production facilities was permitted, including nuclear power plants and chemical plants to reprocess reactor fuel. Private persons and corporations are being licensed to use special nuclear materials, principally fuel for power and research reactors, and radioisotopes, including the large isotopic sources of radiation coming into increasing use.

Today, private industry has developed the capability to provide all necessary materials and services for civilian uses of nuclear energy with three exceptions.

The exceptions are: (1) enrichment of natural uranium with U-235, which is likely to remain a government monopoly for a long time because of the enormous investment required in gaseous diffusion plants; (2) chemical processing of used reactor fuel to recover usable materials (a private group has applied for authority to construct such a plant, with operation planned by 1965); (3) disposal of high-radioactive-level wastes, all of which now are stored on government reservations. It is expected that in the near future there may be private operation of disposal sites under government regulation on state-owned land.

The Department of Commerce compiles annual statistics on the nuclear industry. The latest Census Bureau summary shows that in 1961, shipments of key nuclear energy products manufactured in privately-owned establishments, including exports, totaled more than $270 million. This compares with $242 million in 1959.

* * *

Concern for the well-being of the public by the nuclear industry has always had top priority. The result is a remarkable safety record in a potentially dangerous area. The next in this series of articles tells of the atomic industry's concern for safety of the public.

Remodeling Planned For Sandia Bldg. 838

Styron Construction Company of Albuquerque submitted the apparent low bid—$18,598—for modifications to Bldg. 838, the Atomic Energy Commission announces. The work includes removal of existing partitions and installation of new partitions, setting asphalt tile, and modifying and installing evaporative coolers and forced warm air furnaces.

Removal of existing gas-fired unit heaters, relocation of telephone outlets, reworking sanitary facilities, and replacement and relocation of lighting fixtures are included in the project. John C. Snowdon (4543-3) is the Plant Engineering Department project engineer.

Military Publications Department 2320 will move from Bldg. 809 into remodeled Bldg. 838. Specifications Division 4422, former occupants, will be relocated into Bldg. 828 and Engineering Systems and Procedures Division 4111 will move to Bldg. 880.

Continued from page one

National Science Fair

west of the Coliseum. The Seminars, which will be attended by many of the nation's leading scientists, will be presented at Highland High School. Seminar chairman, and a member of the steering committee, is R. S. Claassen (5100). Other Sandians include W. C. Kraft (2450), W. F. Carstens (3423), M. J. Ahern, Harvey Frauenglass (both 3423-1), C. E. Cockelreas (3423-4), and Wright Van Deusen (3423-5).

To Tour Sandia

Sandia Laboratory will be one of several locations toured by students attending the National Science Fair. At Sandia, student tours will be held from 8 a.m. to 2 p.m., May 7-10, and will include showings of the film, "The Sandia Story," tours of the Sandia Sphere of Science, the Materials and Physics laboratories in Bldgs. 805 and 806, the solar furnace, the Sandia clean room facilities, and Area III facilities including the sled track, centrifuge, and 300-ft. drop tower. R. C. Colgan (3431-1) is tour coordinator.

In addition to the Sandia tour, students attending the Fair will visit Kirtland Air Force Base, the Lovelace Foundation for Medical Education and Research, Los Alamos Scientific Laboratory, the American Gypsum plant, the Jackpile and Paguate mines and the Bluewater mill area near Grants, N. M., Albuquerque Old Town, the Sandia Crest, Bandelier National Monument, and Acoma and Santo Domingo pueblos will be included in sight-seeing trips.

SAFETY HONORS — Sandia Laboratory employees have earned another National Safety Council Award of Honor for 3,655,475 man-hours worked without a disabling injury. The period was from Sept. 29, 1962, through Jan. 14, 1963. E. F. Armbrust of Safety Engineering Division 3211 prepares to hang the award with others on display in Bldg. 802.

Sandia Will Participate in Four Plutonium Safety Tests

In May, Sandia Corporation personnel will participate in a series of four plutonium safety experiments at the Nevada Test Site. The experiments, which are planned to obtain additional radiological safety data on the scattering of plutonium by accidental detonations of chemical explosives in plutonium-bearing weapons, are known as Operation Roller Coaster.

There will be no nuclear detonations involved in the tests. Plutonium-bearing devices will be blown apart by chemical explosives.

James D. Shreve, Jr. (5414) is scientific director for Roller Coaster. D. G. Palmer (7251-1) is assistant to the scientific director for Roller Coaster field operations. H. W. Church (5414) is assistant to the scientific director for meteorology and cloud models.

Mr. Palmer heads a Sandia group in charge of the following activities:

1. Balloon support—a program for providing a series of balloons at various altitudes to support instrumentation used in air sampling. This group is under the supervision of H. G. Laursen (7252-3).
2. Device support—a program involving procurement, emplacement, arming, and handling of the units involved in the experiments. E. L. Jenkins (7254-1) is in charge of this group.
3. Device Consultant — C. H. Mauney (7164) is the field consultant for devices involved in the experiments.
4. Photo Instrumentation—photographic instrumentation is supervised by R. R. Beasley (7244).
5. Health Physics—health physics concerns of Sandia participants in the experiments are supervised by H. L. Rarrick (3311-2).

There are three main objectives of the Roller Coaster experiments. One of them is to obtain additional physical and biophysical measurements of the potential hazard of inhaling small particles of plutonium dispersed by the accidental detonation of the chemical explosive in a weapon. Plutonium, which emits Alpha radiation, can be dangerous to humans if inhaled in sufficient quantity. Intake by swallowing or intake through cuts or wounds are much lesser worries.

Another objective is to obtain additional information on the ability of earth-covered storage facilities to reduce spread of plutonium by accidental non-nuclear detonation.

A third objective is to obtain additional information on the effect of weather conditions on the spread of plutonium in accidental non-nuclear detonations.

It is anticipated that the amount of plutonium, if any, scattered beyond the uninhabited test site will be negligible. However, the Atomic Energy Commission and the U. S. Public Health Service will monitor the experiments to see whether plutonium is detectable beyond the site.

Personnel from Headquarters, Field Command, DASA, Sandia Base, representing the Department of Defense will also participate in the experiments. Col. Leo A. Kiley, USAF, will be military project manager and senior military scientist; Col. Mark W. Niemann, USA, will assist Col. Kiley as the military test director.

Responsible for all Department of Defense scientific and technical programs is Lt. Col. James L. Dick, USAF. Lt. Col. Jack Bentley, USAF, from the Defense Atomic Support Agency in Washington, D. C., is the scientific advisor.

Responsible for bio-medical studies is Major J. Terry, USAF. Also included in the technical program are: Major R. P. Kutarnia, USAF, and Lt. Col. F. F. Seifert, USAF.

Seek Musicians for American Legion Drum, Bugle Corps

Additional musicians are needed by the "Dukes of Albuquerque" drum and bugle corps of Carlisle-Bennet American Legion Post 13.

"You don't have to be an expert, but you must have some musical knowledge," explained Mike Zownir (4253), one of the corps members. Legion membership is not necessary. The musicians practice every Thursday evening.

The "Dukes," organized shortly after World War I, are one of the oldest continuous drum and bugle corps in the country. The corps placed seventh in national competition during the 1962 Legion convention in Las Vegas, Nev., and will appear in similar competition in New Orleans, La., this fall.

Additional information may be obtained from members Mike Zownir, AL 6-3717; Sol Chavez (4512), AL 5-1585; or C. E. Foster (2531), AX 9-7910.

Dick Foster Puts Set Designing Talents To Work for Little Theater Group

Chopping bamboo at a golf driving range might seem far removed from the theater arts, but physical activity, ingenuity, and talent must often be combined both before the floodlights and behind the scenes.

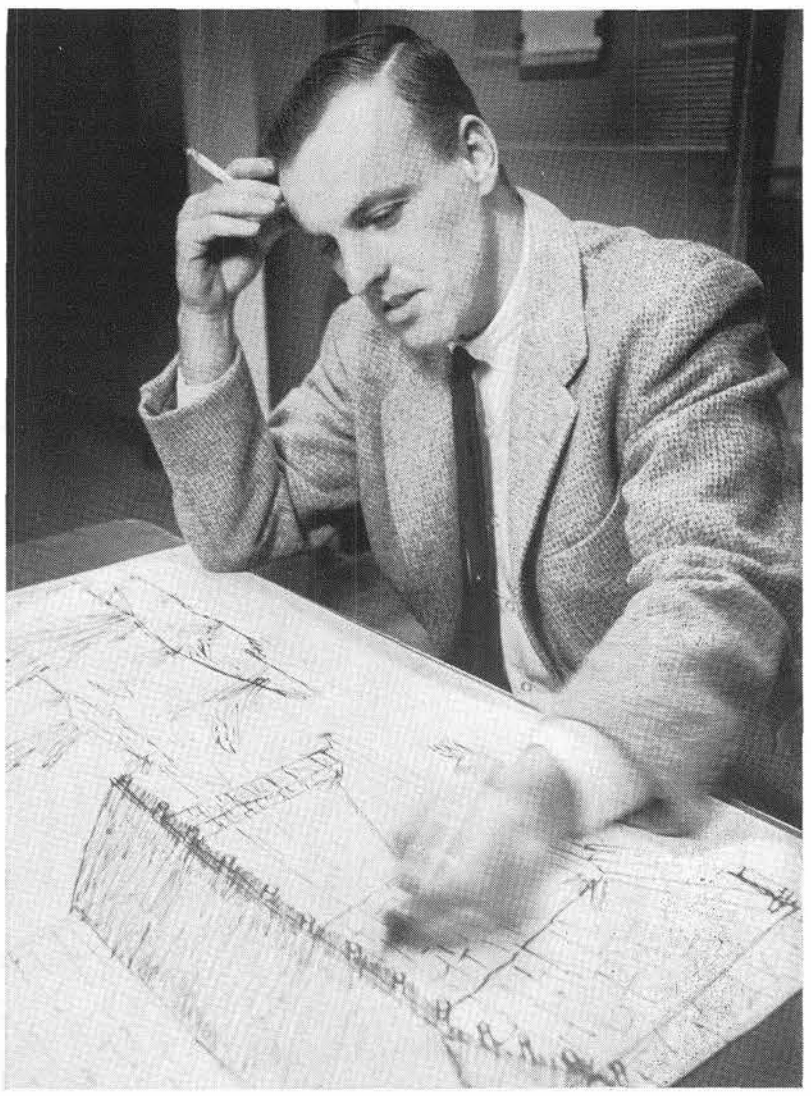
The bamboo canes were painted green and artistically arranged to become an essential part of Dick Foster's set design for the Albuquerque Little Theater's recent production of "Rashomon."

Dick is a staff member in Sandia's Industrial Photographics Division 3465. His interest in the theater arts extends into his leisure-time activities. Both Dick and his wife, Sally, have been active in the Albuquerque Little Theater for the past two years and in the Orlando, Fla., community theater for three years previously. Dick does set designs, lighting, and sound. Sally helps with the props and does a little acting.

"We've worked on 50 shows in the past five years," Dick noted. "but 'Rashomon' was the most difficult. An average show will have 10 light and sound cues. 'Rashomon' had 200 separate cues for lights and sound. In fact, in the first 10 minutes there were 16 sound cues and 28 light cues."

Each new show calls for 23 rehearsals, but often Dick may be planning for a future production before the current show has closed. With "Rashomon," ramps and boulders had to be in place before the start of four weeks of intensive rehearsal of the sword fight scenes.

In all cases, Dick and Director Bernie Thomas go over preliminary sketches based on the stage setting for the original Broadway show but adapted for this stage and equipment. Then, the final floor plan is prepared which contains exact dimensions for doors, windows, and other parts of the scenery. This plan is followed by a Saturday work crew of volunteers and one full-time employee. Albuquerque furniture stores usually "dress the set" and provide interior decorating advice.



PRELIMINARY SKETCH by Richard V. Foster (3465-1) was the starting point for the set design of "Rashomon," a recent production of the Albuquerque Little Theater. Dick is also responsible for lighting and sound.

Dick received his formal training while working on his BA degree in theater arts at U.C.L.A. The first two years included basic theater and motion picture stagecraft. "I enjoy set design and lighting equally well, and feel they are both important in presenting a good show. However, they must never overshadow the story line itself, even though it may be weak," he said.

Rehearsals and plans are now underway for the next production, a comedy, "Sunday in New York," which will open May 3.

Sandia Authors

Current or forthcoming articles by Sandia authors in technical journals include the following:

D. D. Glower (5322) and D. C. Wallace (5152), "Thermal Studies of $CaBaT_iO_3$," May issue, publication of the **Physical Society of Japan.**

D. L. Allensworth (5152), "Modification of a Hoke #482 Valve for Use as A Variable Leak," April issue, Notes Section of the **Review of Scientific Instruments.**

L. D. Shoemaker (4254), "A Machine Method for Milling Sharp Corners in Rectangular Blind Cavities," Mar. 18 issue, **American Machinist.**

D. L. Hanson (5425) and J. R. Blum, University of New Mexico, "On the Isomorphism Problem for Bernoulli Schemes," March issue, **Bulletin of the American Mathematical Society.**

S. H. Peres (3134), book review on "Scientists, Their Psychological World," by B. I. Eiduson, March issue, **Contemporary Psychology.**

K. D. Granzow (5152), "The N-Dimensional Total Orbital Angular Momentum Operator," July issue, **Journal of Mathematical Physics.**

National Park Service Acquires Frijoles Tract

A tract of unimproved land in Los Alamos County, adjacent to Bandelier National Monument, has been transferred to the National Park Service, C. C. Campbell, Manager of the AEC's Los Alamos Area Office, announced Mar. 21.

The 2883-acre parcel of land is known as the upper Frijoles Tract. It lies in the extreme southwestern part of Los Alamos County, south of State Highway 4 and the Baca location. It includes the upper section of Frijoles Canyon and some land lying between State Highway 4 and the south rim of upper Frijoles Canyon.

The National Park Service desired to acquire the tract for inclusion in the proposed Valle Grande National Park. The area is included in companion bills introduced by U.S. Senator Clinton P. Anderson and U. S. Representative Thomas G. Morris in January 1963, providing for establishment of the Valle Grande National Park.

Whether or not the national park is established, it is planned that the tract be incorporated into the Bandelier National Monument.

Sandia Game Refuge Area No Place for Target Shooters

If you are going target shooting, don't do it in the Sandia Mountains. That's the advice of Terry Radman (2422), who is a volunteer reserve conservation officer, commissioned by the State Game Department.

During the past month, Terry has made 22 arrests on the west side of the Sandias for violation of the state law which prohibits possessing loaded firearms in a Game Refuge or Game Management Area.

The entire Sandia Mountain range lies within a Game Refuge to protect Rocky Mountain bighorn sheep, deer, and other animals. The boundary is roughly U.S. 66 on the south, North Highway 10 on the east, Highway 44 from the vicinity of Placitas to near Highway 422 on the north, and just east of Juan Tabo Road along the west side.

"West of the refuge boundary is the city limits, at least from U.S. 66 to Montgomery Boulevard," Terry says, "so be certain you know where you are before you shoot."

All roads into the Game Refuge are posted with official green and white signs which give warning that no guns are allowed. Penalties range from $25 to $200 in fines and from one to 90 days in jail, or both, at the discretion of the court.

The only exception to the law are peace officers on official business, others with permits issued by the Game Director, or persons traveling through the refuge with unloaded or broken-down weapons.

Sandia Speakers

Following is a list of speakers, titles, and places of presentation for talks by members of Sandia Corporation.

Albert Narath (5151), Bruno Morosin (5152), and A. T. Fromhold, Jr., (5151), "Magnetic Properties of $CoCl_2 \cdot 2H_2O$," American Physical Society, Apr. 22-25, Washington, D.C. Mr. Narath will make the presentation.

R. I. Ewing (5152), "Charge Production in Silicon Surface Barrier Counters by Helium Ions," American Physical Society, Apr. 22-25, Washington, D.C.

D. J. Jenkins (3130), "Motivation and Management Behavior," Texas Technological College, Apr. 18 and 19, Lubbock, Tex.

M. M. Robertson (1122), "Spectroscopy, Photometry, and Event Photography on RFD-1 of the SNAP Program," Bermuda Technical Society, Apr. 10, Hamilton, Bermuda, and also before the Hamilton Lion's Club.

L. J. Vortman (5412), "Implications of Experimental Data on the Scaling of Crater Dimensions," 32nd Symposium on Shock, Vibration and Associated Environments, sponsored by the Office of the Director of Defense Research and Engineering, Sandia Base, Apr. 15-18, Albuquerque.

Could You Pass This Citizenship Test?

How about slipping out from under the all-protecting mantle of U. S. citizenship for a moment. Put yourself in the place of people from other countries who want to become Americans. Now take the citizenship test they take—or at least answer some questions similar to those they have to answer before they become citizens.

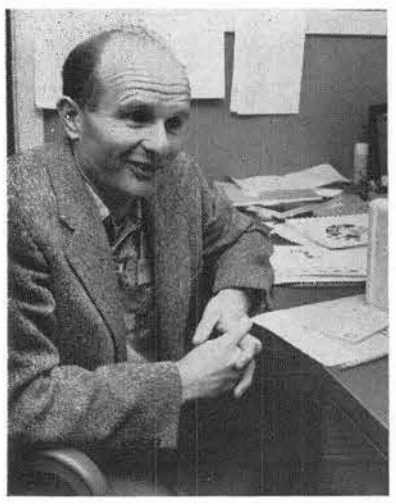
As a petitioner for naturalization, you're expected to have many qualifications. Before submitting your petition, you will have lived in this country five years (if you are the husband or wife of a U. S. citizen, it's three years). You must be "attached to the principles of the Constitution of the United States and well disposed to the good order and happiness of the United States."

You'll bring two witnesses to the Federal courthouse to swear to your good moral conduct. An examiner will test you on your knowledge and understanding of our history and government.

Courtesy of the **Illinois Bell News**, here are some of the questions you might be expected to answer:

1. What is the supreme law of the land?
2. What is the Bill of Rights?
3. Can you name any of the rights and privileges guaranteed by the Bill of Rights?
4. When was the Constitution adopted?
5. How can the Constitution be changed?
6. How many justices are there in the Supreme Court?
7. What document declared the 13 colonies to be free and independent states and when was it signed?
8. How many departments are there in our government?
9. What are the most important privileges given you when you are a citizen?

The answers to these questions are on Page 6. But first, read what some Sandia Corporation "Citizens by Choice" say about their citizenship.



Hugh O. Pierson

To Hugh O. Pierson (4224-2) there was really no one reason for his coming to America; it was a combination of motivating forces. "There was a desire to see a new country, an attraction to the economic drive existing in America, and the fact that my wife was already an American citizen."

Hugh's family is originally from Holland, but they moved to France shortly before his birth. As a child, he had an English nurse, and the family frequently vacationed in Great Britain; therefore, he easily learned the English language.

Hugh, who is supervisor of the Plastics Section, graduated from the French Naval Academy and later served four years with the Free French Forces. After World War II, he took a job in Africa with a firm dealing in vegetable oils and natural chemicals. While there, he met his future wife, a native of Pennsylvania who was teaching at a mission school. "We were married 15 years ago in Cameroun, and honeymooned in the Belgian Congo," he said.

The couple moved to the United States about a year later, and Hugh became an American citizen three years later. "We decided to move West in search of milder weather after the rough climate in the East and Africa," he said. "We'd like to visit my parents in France, but with five children, it's difficult."

Stefan Folkendt

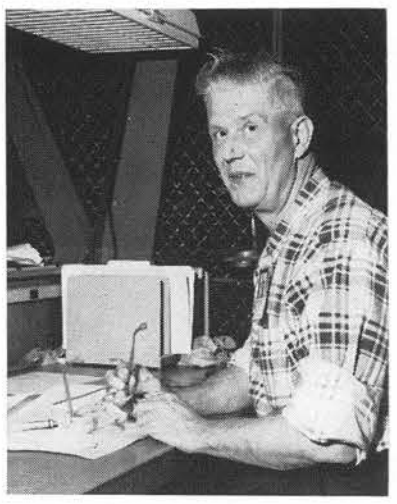
"I could have become an American citizen automatically," says Stefan Folkendt, Jr. (8123-1), "when my father was granted his citizenship. But I wanted to do it on my own because then it would have more meaning for me."

Stefan considers his citizenship as one of the major accomplishments in his life. "I'm young to talk this way, I know," he said, "but so many Americans don't seem to realize what they have in this country. To understand the real meaning of freedom, I guess they have to see how other people live."

Stefan, a lab assistant in the Data Center Section, arrived in the United States from Austria in 1952 when he was 12 years old. He and his father, mother, two brothers, and his grandmother made the trip under the sponsorship of his church, settling in Stockton, Calif.

He entered the sixth grade when he arrived, although he had been in the equivalent of the eighth grade in Austria. "Since my knowledge of math and history were pretty good, they let me concentrate on my English studies. With the help of my teachers and my friends, I soon mastered the language."

Later, this fluency in English and background in history paid off for Stefan when he took his oral citizenship examination in 1961. "The first question they asked me was 'What are the three branches of the federal government?'" he said. "My grandmother wasn't so lucky — she had to take the examination twice."



Helmuth Woidtke

To Helmuth Woidtke (8225-2) the United States is "truly the land of opportunity."

As one of 14 naturalized citizens working at Livermore Laboratory, he remarked that no other country "offers the freedom and opportunity to be found in the United States." In Germany, he said, "I had to report to the police station every time I wanted to move or change jobs."

A tool and die maker in the Inspection Section, Helmuth arrived in the United States by ship from his native Germany in 1929 as a young man of 22. "There were only two ways to make the trip then," Helmuth said, "by ship or zeppelin."

"When I left Berlin, all was kaput — no work, no shoes, nothing — so I decided to go to America. I went to live with my aunt in Chicago and found work there immediately as a tool and die maker for a motion picture projector manufacturer. I've been working ever since," he added.

Helmuth picked up the language without much difficulty. He attended language classes at night school for a short time, but the combination of work and school proved to be too much. "I fell asleep on the street car on the way to class and missed my stop a couple of times, so I gave it up," he recalled. But in the ensuing years, Helmuth picked up enough language and American history to pass his citizenship examination in 1938.

Kennell J. Touryan

As a native of Armenia, Kennell J. Touryan (7131) had an equal opportunity to attend school in Russia or America. "I was anxious to come here," he said. Even so, the journey was roundabout.

When his parents left their homeland in 1920, they first settled in Jerusalem, Palestine. Ten years later, when this city became the capital of Israel, they moved to Lebanon, where Ken attended the privately-sponsored American University at Beirut. In 1956, the Touryans emigrated to the United States as displaced persons. They have all since become naturalized U. S. citizens.

During the intervening years, Ken obtained his Master's degree in mechanical engineering from the University of Southern California, and his MA degree in physics and PhD degree in engineering science from Princeton University.

When he took the citizenship test a year ago, Ken was asked the question, "If the U. S. government asked you to raise arms against your native country, would you do it?" "I was surprised at first," he said, "but then realized that it was a fair question. As a U. S. citizen, I would owe allegiance above all to my newly-adopted country."

"After obtaining my citizenship papers," he said, "I was pleased to receive welcoming letters from the Congressional delegation in New Jersey, where I took the test."

At Sandia Laboratory Ken is a staff member in the Aerospace Research Division.

Erika Adams

"I was very anxious to become an American citizen," Erika Adams (7222/3126) said. "I felt that if I were to raise my children here, I wanted to be a part of this country. The feeling of belonging to the country was important." In her case that need is very understandable.

Erika, an only child, was raised in Breslau, Germany. "My parents had saved all their lives and had just built a new home. Everything was exactly the way they wanted it. Then, in 1945, Breslau was declared a combat zone. We were given two hours to pack our suitcases. We could take only what we could carry," she recalled. There had been an air raid every night, but no damage in their part of town. After they left, Erika later heard that practically all of the city was destroyed.

The family lived in a refugee camp in Mauerkirchen, Austria, until October 1945. Breslau had become a part of Poland, so the family decided to settle in Fulda, West Germany, and Erika went to work for the U. S. Military Government, where she met her future American husband. The couple was married in March 1948.

"I took the citizenship test in Wichita, Kan., as soon as I legally could," Erika said. "I remember attending an evening class for two months to study about American history and government. With that help, the exam was actually very easy."

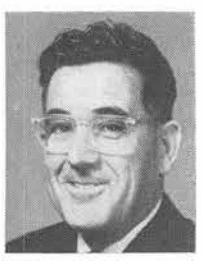
Service Awards

15 Year Pins

James P. Mahoney
4623
Apr. 16, 1948

Oleta M. Morris
4333
Apr. 16, 1948

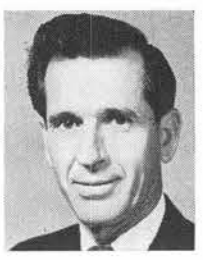
L. E. Lamkin
7500
Apr. 19, 1948



James J. Reck
4234
Apr. 19, 1948

John W. Benson
4372
Apr. 22, 1948

Leo A. Dunn
7122
Apr. 22, 1948



John J. Ransom
4516
Apr. 28, 1948

10 Year Pins

Apr. 13-25

John R. Banister 5153, William S. Bedwell 3242, Joseph P. Gaynor 2631, James R. Perkowski 8243, Mary V. Simpson 4135, Richard E. Hodges 3465, Lewis Butler 4614.

Woodrow W. Hunt 4412, Charles R. Ortiz 3242, Frank T. Owens 2311, Betty A. Spieler 3423, Charles E. Gumley 1431, M. Jane Powell 3321, Eugene Thompson 7324, Allan M. Schonberg 4341, and Sidney B. Gasser 3451.

Welcome
Newcomers

Mar. 11-Apr.5

Albuquerque
Emma Lu Bunch 3126
*Jean Ann Davis 1113
Fred A. Gross, Jr. 9130
Sally C. Kahl 4613
Clara M. Kopp 3423
Janice O. Lambert 3126
J. Joe Martinez 3444
Jacquelyn McLaughlin 3126
*Eva J. Ortega 3126
Helen A. Peterson 4333
Scuddy C. Roberts 4574
Helen S. Sanchez 3126
Hugh I. Taylor, Jr. 3446
Burnell K. Tiefa 3453
Danella Yarbrough 3126

Illinois
Richard D. McAvoy, Chicago 7333
Barry H. Simon, Chicago 1313

Indiana
James D. Williams, West Lafayette.... 1431

Pennsylvania
Jerry D. Kennedy, Bethlehem 5133

Tennessee
Nicholas A. Beauchamp, Nashville 5411

Texas
Frederick S. White, Bryan 3412

Virginia
Gene E. McCorkle, Lynchburg 7323

Returned from Leave
Estella B. Chavez 3126

* Denotes rehired

Wildlife Liars' Banquet Will Offer Some Tall Tales of Hunting, Fishing

For the third consecutive year, Orlando Ulivarri (2643) will serve as general chairman for the Wildlife Conservation Association Liars' Banquet, to be held Apr. 18 at the VFW Hall, 4510 Lomas NE.

The barbecue buffalo dinner will be followed by "some of the best lies ever told about hunting and fishing," according to Orlando. The Golden Bull Trophy is awarded to the best liar. Last year's winner was E. R. Harrington (frequent Sandia summer employee), who described a scientific hunt in Old Mexico.

Admission to the banquet is free to all members of the association's Albuquerque chapter. Membership cards may be obtained at the door or in advance by mail from P. O. Box 1234, Albuquerque.

Other Sandians assisting in arrangements for the banquet are: Carmel Mares (2641), prizes; Eden A. Raney (3242), flowers and door; and Charlie C. Hines (3244), program.

Base Library Invites Sandia Employees to Attend Open House

Sandia Laboratory employees are invited to attend an open house at the Sandia Base Special Services Library Sunday, Apr. 21, from 3 to 5 p.m. The occasion will be in observance of National Library Week and will honor military technical writers. Refreshments will be served.

The Base Library is Bldg. 219 located on 1st St. between E and F streets.

Skiers Close Down Winter Season With Beatnik Costume Party

Members of the Coronado Ski Club will officially end the winter season on Saturday, Apr. 20, with a chuckwagon buffet-beatnik costume party at La Cana room. Tickets, at $2.50 per person, include food and refreshments throughout the evening, and may be obtained from Marion Sliwinski (2642) and Daphne McPeters (7164).

Unusual training school

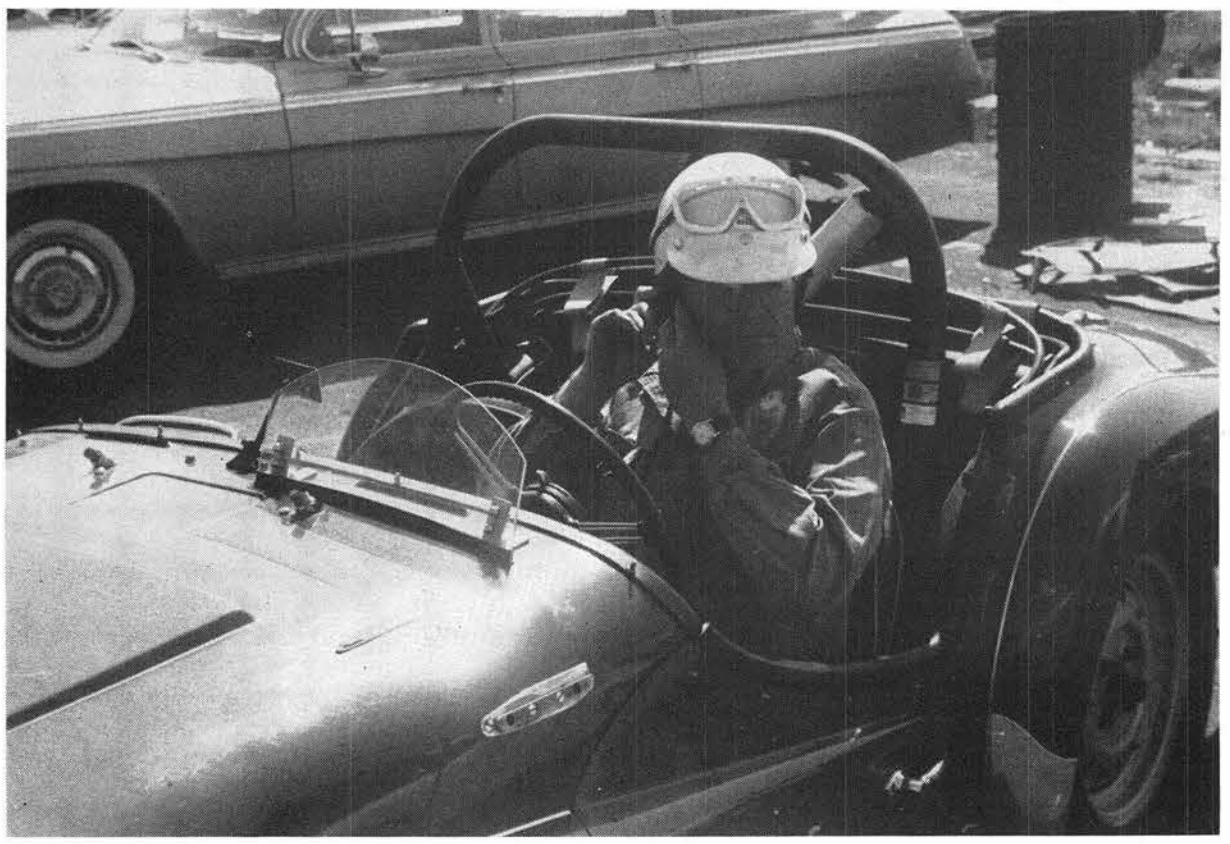
Drivers Learn How To Cut Corners

What is a four-wheel drift? What is the heel-and-toe technique? What is the correct line through a corner? What is a Texas start?

Well, they are part of the language of racing drivers, and two Livermore Laboratory men have just completed a competition driving course in which the terms are commonplace.

Lurl Ostrander (8241) and Phil Mead (8233-1) graduated from the 1963 competition driving school conducted by the Racing Driver's Club (RDC), a member of the Northern California region of the Sports Car Club of America (SCCA).

In their language, a four-wheel drift means that the car is guided through turns in a precise slide which the driver controls using the throttle instead of the steering wheel. The heel-and-toe technique means that the driver operates the three pedals simultaneously, permitting him to slow for a turn while double clutching into a lower gear. The correct line is the path the driver takes through a turn which will give him the maximum advantage in the race.



SUITING UP — Lurl Ostrander (8241) gets ready in the pits at Cotati Raceways for his evaluation race in the competition driver's school. The stickers on the roll-bar signify that the car has passed the rigid technical inspection that all race cars undergo. Lurl spent eight months and about $600 preparing this car for racing.

Classroom Sessions

The course, which started in January, consisted of three classroom and three driving sessions. The classroom sessions included chalk talks by experienced racing drivers and club officials on everything from taking corners at speed to pointers on preparing automobiles for competition. The driving sessions were held at Cotati Raceways, near Santa Rosa, Calif.

The men were surprised to find out how much they didn't know about driving—or about automobiles.

"I knew I'd learn things in this course," Lurl admitted, "but I had no idea how much. I found that about all I had done in some 20-odd years of street driving was to establish a few basic qualifications for really learning to drive."

"Competition driving is a different world," Phil said. "The first thing I discovered was that hardly anybody maintains his street machine well enough to support the stresses of normal driving. On the other hand, hardly any beginning racer knows how to use his machine, or himself, to full potential."

Lurl added: "The competition driver is not just handling an automobile; he's controlling a landbound projectile. He desn't think in terms of gas mileage or comfort, but of aerodynamics, and the effects of heat and stress on rubber and metal."

As a result of their final driving session, Phil and Lurl were declared eligible for their novice racing licenses.

The licenses are issued by the SCCA, and are recognized at tracks anywhere in the U. S. A student receives his novice license, after completing a course conducted by a recognized local club. During the course he must have had at least five hours of actual track time. When he has taken part in three regular races as a novice, he may apply for his junior license. Then he must compete in six more races to be eligible for his senior driver's certificate.

Nationally Recognized

The RDC school is nationally recognized as being one of the best in the country. Students from as far away as Reno and Los Angeles pay $50 each to take the course, which is offered once annually.

Of some 180 students who enrolled in the school in January, only about 70 completed the course.

In the first two driving lessons, instructors ride part of the time with the students to teach them cornering techniques and competitive use of the automobile. The student drives in traffic, but he runs against the clock rather than against other drivers. In his final session, he engages in a practice race against other drivers. During the session, he is evaluated by his instructor and other observers on his general ability to handle his car at high speeds, his facility at braking, clutching, and shifting simultaneously for corners; attentiveness to mirrors and instruments; courtesy to other drivers; poise under competition conditions; aggressiveness; and several other points.

"At the end of those three sessions, you're really wrung out," Lurl said. "There's no such thing as being really sure you'll pass. Phil and I were pretty tense while we waited for that ruling to come in."

Both Phil and Lurl drive TR-3 sports cars. The school was Lurl's first experience with racing. Phil had taken one practice session in 1961 in a Jaguar 3.4 sedan, but "that was just too nice a car to put on the track," he said. "I decided to wait until I had a car I was willing to risk."

Neil Givens (8233-1) also ran practice sessions in 1961 in his Alfa-Romeo Giulietta, but decided not to risk the car further. He is now building his own racing machine.

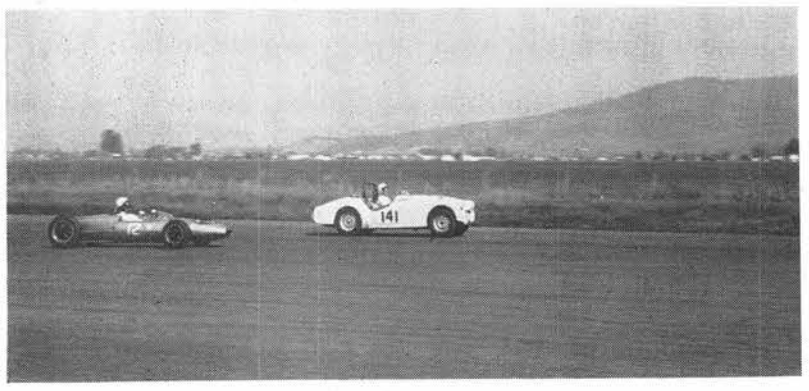
Another Driver

Another Livermore Laboratory man has been racing for the past two years. Tom Lane (8118), is now a junior driver, and competes with his AC Bristol in most of the road and circuit races in Northern California. He has taken five firsts and has placed among the top five several times.

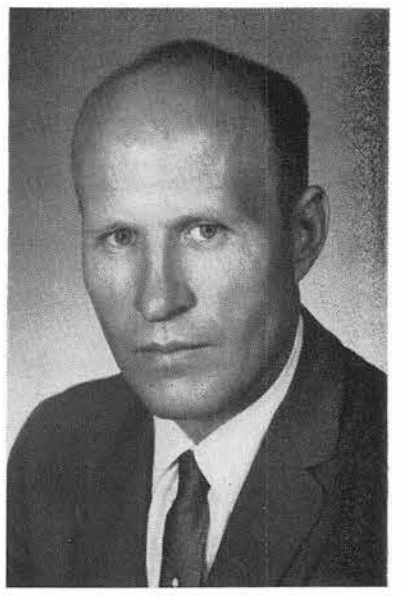
STRICTLY FOR SPEED — Tom Lane (8118) keeps this AC Bristol only for racing. The front is wrapped in masking tape to prevent flying pebbles from marring the paint. The CP on the door means that the car belongs to the C class of production automobiles. Picture was taken in 1962.

Lurl and Phil are impressed by the cleanness of the sport, and the dedication of its followers. "There is no prize money in this level of sport-car racing," Phil said. "It's remarkable to see 50 to 80 drivers at a track, with machines ranging in value from $2,000 to $15,000, on which they've worked hundreds of hours, ready to pit the cars and themselves against time, distance, physical laws, and each other, for no other reward than a dash plaque or a trophy.

"I think that's why the sport is so clean. Everybody realizes what everybody else has gone through to get there, and it's rare indeed when a driver deliberately dents another's car, or gets him into a position from which he can't recover without hitting something. I see more pure sportsmanship in a race than in any other sport I have ever known."



BY-PASSED — Phil Mead (8233-1) is about to be passed by a Lotus 22 Formula Junior car (left) in his evaluation race at Cotati Raceways. In actual competition, Phil's TR-3 would not compete against the faster car.



W. C. Scrivner

Governor Names W. C. Scrivner to Flood Authority

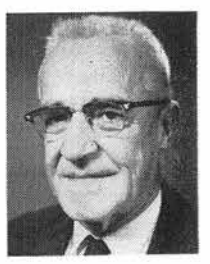
W. C. Scrivner, Personnel Director 3100, was appointed recently by Governor Jack M. Campbell to the newly-created Albuquerque Metropolitan Flood Control Authority.

Appointments were made upon the recommendations of the Albuquerque Growth Committee.

The five-member group is charged with setting up an election for a proposed bond issue which, if approved, would provide money to be combined with Federal funds for a flood control project. Voters would also determine members for a permanent board. However, if the bond issue is defeated, the Albuquerque Metropolitan Flood Control Authority automatically goes out of existence.

Mr. Scrivner is a native of New Mexico and holds a BS degree in civil engineering from the University of New Mexico. He was a research assistant for three years at New Mexico Institute of Mining and Technology, and an associate professor of mathematics at UNM before joining Sandia in 1947. He has headed the personnel organization since February 1961.

Santiago Otero Died April 3



Santiago Otero, who retired from Sandia Corporation four months ago, died Apr. 3. He was 65.

Mr. Otero was a stockkeeper in Stock and Material Control Division 4212 and had been at Sandia Laboratory 12 years.

Survivors include his widow, two daughters, Mrs. Frank Sedillo and Mrs. Pat Kramer; three sons, Jimmie (4514), Odelio (4231), and Conrado (4234); a sister, and 17 grandchildren.

Burial was at the Tome Catholic cemetery.

Here are the answers to the questions on Page 5

How Did You Do on Citizenship Test?

1. What is the supreme law of the land?

The Constitution of the United States, the foundation of individual rights, is the written statement of the basic principles and rules of government for the United States and is the supreme law of the land.

2. What is the Bill of Rights?

The first 10 amendments to the Constitution.

3. Can you name any of the rights and privileges guaranteed us by the Bill of Rights?

Freedom of religion . . . of speech and the press.

4. When was the Constitution adopted?

1788.

5. How can the Constitution be changed?

"The Congress, whenever two-thirds of both houses shall deem it necessary, shall propose amendments to this constitution or on the application of the legislatures of two-thirds of the several states, shall call a convention for proposing amendments, which, in either case, shall be valid to all intents and purposes, as part of this constitution, when ratified by the legislatures of three-fourths of the several states, or by conventions in three-fourths thereof, as the one or the other mode of ratification may be proposed by Congress . . ."

6. How many justices on the Supreme Court?

Nine.

7. What document declared the 13 colonies to be free and independent states and when was it signed?

Declaration of Independence, signed July 4, 1776.

8. How many major branches in our government?

Three. Legislative (Senate, House of Representatives), writes the law; Executive (President and Cabinet), enforces the law; judicial (Supreme Court, Circuit Court, District Court), explains the law.

9. What are the most important privileges given you when you are a citizen?

Freedom and equal rights.

Recreation Reps At Sandia Laboratory Identified on Boards

Sandia Laboratory's recreation council received recognition last week when photo-posters of the 28 men went on display on bulletin boards throughout the Laboratory. The council representatives help plan and coordinate company recreation programs with Services and Recreation Section 3122-2. Each general organization has one member on the council.

The new posters will identify recreation council members as sources of information about current recreation programs, team formations, and new activities.

Coronado Club Members Offered Varied Program

The Coronado Club will feature a Fisherman's Wharf Buffet this evening, following a Social Hour, which will be held from 4:45 to 7:30 p.m. Prices will be $1.50 for adults and $1.25 for children.

A basic six-week course in the Bossanova, along with instruction in the Mambo and the Merengue, will be offered to Club members beginning Apr. 25.

The class will meet from 8-9 p.m., Thursday evenings. Registration will be taken prior to the first lesson on Apr. 25; however, to avoid delay, advance registrations will also be taken at the Club office.

Fee for the course will be $12 per couple. Charles Balistrere (3453) will instruct.

Employees, Families May Compete on Swimming Team

Sandia Laboratory employees and families are eligible for membership on the Sandia Base Swimming and Diving Team. The swim team will compete in the Duke City Aquatic Association, which is an AAU-sanctioned league.

The team will compete in age group swimming for boys and girls as follows: 10 and under, 11-12, 13-14, 15-17, and 17 and over.

The Olympic Pool on Sandia Base will be used for team workouts. Anyone interested may contact Joe Schulein, ext. 56215, or Jim Sherrod, ext. 34124.

Lab News Reporter Remembers Days In 1949 – Before Sandia Corporation

This is another in a series of articles about employees who are volunteer Lab News Reporters.

Mabel Avallone has been a secretary in Full-Scale Testing Support Division 7118 for a year, and has been a volunteer **Lab News** reporter for that organization almost as long.

A native of New Mexico, Mabel had a Civil Service job on Sandia Base in early 1949 and remembers hearing about "that group of people working on the Base for the University of California." That small group was the forerunner of Sandia Corporation.

Mabel and her husband enjoy gardening. "Last summer we bought a house with an established garden," she said. "Right now we're waiting to see what will come up, and then we'll decide what plants to move." Her other hobby is reading.

coronado club

April 12 - April 27

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					12 Social Hour—4:45-7:30 Combo Fisherman's Wharf Buffet $1.50 Adults $1.25 Children	13 Teen Dance 8:00-11:00 25c per person Prizes Free Coke
14	15 Duplicate Bridge 7:30	16 Adult Dance Instruction Basic 7:00 Advanced 8:30	17 GAME NIGHT 8 p.m.	18 Sandia Corp. Open Pairs Tournament 1st Session 7:30 p.m.	19 Social Hour 4:45-7:30 Combo Regular Buffet $1.95 Adults $1.40 Children	20 Sandia Union #1689 Dance 9:00-1:00 SKI CLUB PARTY La Cana
21	22 Duplicate Bridge Master Point 7:30 p.m.	23 Adult Dance Instruction Basic 7:00 Advanced 8:30	24 All Day Ladies Bridge 9:30 a.m.	25 Sandia Corp. Open Pairs Tournament 2nd Session 7:30 p.m.	26 Social Hour 4:45-7:30—Combo Mexican Buffet $1.25 Adults $1.00 Children	27 ACF Union #794 Dance — 9:00-1:00 BOWLING NITE Men & Women Films 7:30 Free Beer & Snacks

EVENTS

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

CLASSIFIED ADVERTISING

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

RULES

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

FOR SALE

4" SHOP MASTER JOINTER and 18" Craftsman jig saw, $40 each. Liguori, AL 6-3613.

'53 FORD PICKUP ½-ton, four extra tires, $350. Hiller, AX 8-4074.

'57 LAMBRETTA motor scooter, $100; '54 Mercury hardtop. Stang, 255-0693.

GIRL'S 20" bicycle, training wheels, $15; Ashcraft resale, $17,300, $700 down to FHA, carpet, drapes, built-ins, landscaped, playhouse. Reed, AL 5-8094.

NEW 670-16 tire chains, $5; 8" tilting arbor saw w/motor, $30; new size 11 ski boots, boot tree, $20. Alden, AL 5-4827 after 5 p.m.

BOY'S 26" Schwinn Tornado bicycle, new tires and tubes, $20. Houghton, AX 9-3386.

USED KENMORE automatic washer, $20. Lawrence, AL 6-2613.

GOURDS, various sizes and shapes, well seasoned, ready for painting as wall decorations, bags of 8 gourds, assorted sizes and shapes, $1/bag. Hill, CH 3-3493.

BOY'S 24" bike, needs paint, $15 or trade for girl's 24" bike. Merillat, CH 2-4873.

'58 VOLKSWAGEN, $950. Longfellow, AX 9-7062 after 5 p.m.

'60 ITALIA 2000 coupe, Vignale body by Michelotti, Triumph chassis, fully equipped red w/black leather, $2875. Losa, AM 8-0095.

2-BDR, den, double carport, carpet, drapes, fireplace, corner lot, 1000 Washington SE, $14,000, owe $10,200, $94/mo. Randall, AM 8-3518.

'49 FORD, sedan, $125. Armbrust, 298-3666.

'57 FORD, 4-dr., standard transmission, V-8, R&H, $500. Dean, AX 9-7355.

GAS RANGE, Magic Chef w/electric clock and timer, $35. Horn, AX 9-1856.

EASY combination washer-dryer, 1½ years old, $120. Caffo, 255-1058.

OUTDOOR GYM SET: 2 swings, trapeze bar, gym rings, chinning bar and glider, $5 and you move it out. Burbank, AX 9-1460.

2-BDR HOUSE, 25 x 14 den w/wbfp, utility room, 2927 Sierra NE. Vigil, AL 5-0595.

SELL OR TRADE, '58 English Ford; '57 Dodge; vacuum; stroller; steam iron; twin bed; ladies elec. razor. Naumann, 298-6467.

'52 BUICK 4-dr., 2-tone, standard shift, R&H, trailer hitch, $175 or consider trade. Brown, DI 4-6831.

MOTHER OF PEARL SET of Rogers drums, originally $500, sell $325. Smythe, 242-1503 or 247-9804 after 6 p.m. on Saturday or Sunday.

MAN's TRAVEL TOILET CASE, new, completely equipped, $9.50; 3-piece, single-breasted tuxedo, size 41-42, $29.50; new western belt, leather, Zuni turquoise buckle w/2 keepers, $9.50. Metzger, 298-5054.

PORTABLE TYPEWRITER, Smith-Corona, Clipper model; 24" TV, blond console. Olson, AM 8-5312.

WINCHESTER slide-action .22 with 2½ power scope and mount. Larrabee, AX 9-1172.

'56 PONTIAC, 2-dr. hardtop. Wilson, AX 8-0049.

9-PIECE MAHOGANY dining room furniture: buffet, china cabinet, Duncan-Phyfe table, 6 chairs. Worley, 298-4039 after 5 p.m.

STORKLINE CRIB and mattress; baby valet chest; car seat; 4-drawer unfinished chest; 9x12 wool carpet and pad. Randall, AX 9-3935.

'60 AUSTIN-HEALEY 4-seater, OD, and w/w. Sutterwhite, 540 Rhode Island SE. 268-2687.

PICNIC TABLE, heavy, redwood, factory-built, benches; Navajo squash-blossom necklace, matched stones; turquoise concha belt; bracelet. Kersey, AX 9-2800.

FEMALE ENGLISH BULL, 3 mos. old, fawn and white w/black markings, all shots, pedigree furnished, $125. Cox, 243-4014.

3 TABLE LAMPS; 1 car-top carrier. Niper, AX 9-6290.

'58 ISETTA 300 coupe, spare parts, engine, body, $175. Allen, AL 5-7048.

3-BDR, SE Heights, near Bases. $500 mv part, assume payments. $12,100 total, no qualifying. Bates, 255-0671.

'59 CUSHMAN EAGLE, wind shield, buddy seat, $160 or best offer, take gun in trade. Pritchard, AM 8-6430.

3-BDR. BRICK, 1 ¾ bath, drapes, carpet, 2 driveways, sprinklers, a/c, patio, corner lot Chappell, 8903 Claremont NE, 299-7860.

'59 VW STATION WAGON, 29,000 miles. Strauch, AL 5-1873.

BLOND BABY BED, $7.50. Parks, AM 8-0875.

LAWNMOWER, Craftsman, 3 HP rotary, 20" blade, grass catcher, $45 or trade equal value reel type; Kenmore washer, $25. Syroid, AX 9-8256.

84"x20' LINED FLORAL DRAPES, $20; 12'x23' beige carpet w/pad, $150; 30" glass door range, $35; need concrete mixer. Banks, AL 5-2544.

MAGNAVOX CONSOLE, radio-phonograph, short wave, 78 rpm only, 1941 mod., $15. Pardee, AX 5-1998.

20" CHARCOAL BROILER on wheeled stand, $5; large chest of drawers, $5, Barba, AX 9-5832.

ELECTRIC IRONER, Maytag. Brown, AX 9-5405.

TIRE Goodyear Supercushion wsw tubeless, 9:00 x 14, less than 100 miles, $20. Bear, AX 8-2744.

GOLF CLUBS, set of 7 Wilson irons, putter, 3 matched H&B woods and bag 1960 model, $35. Runyan, AL 5-6719.

4-BDR. MOSSMAN, landscaped, fireplace, hw/floors, built-ins, a/c, drapes, attached garage, $18,000. Alberts, 268-1806.

3-BDRMS, 1700 sq. ft., near schools, hw/floors, a/c, pitched roof, landscaped, VA loan, terms negotiable. Coonce, AX 9-2026.

'56 FORD V-8 convertible, automatic transmission, R&H or '59 Ford V-8 Galaxie, automatic, R&H. Cooper, AX 9-6936 after 5 p.m.

2-BDR w/attached garage, carpet, drapes, stove, refrigerator, walled yard, non-qualifying, $500 down, $85/mo. Womack, 299-5564.

'62 T-BIRD, all power and a/c, priced $130 below the March N. A. D. A. book value. Chandler, 298-5069.

'56 JEEP, 6-cyl, 4-wheel-drive station wagon, winch, tow bar, hubs, $750. Gross, 299-7019.

NEXT DEADLINE FOR SHOPPING CENTER ADS Friday Noon, Apr. 19

3-BDR. ASHCRAFT, double garage, den w/fireplace, a/c, dishwasher, garbage disposal, sprinkler system, landscaped, other extras. Heuer, 255-6158.

'58 OLDS 4-dr. 88, PS, PB, Hydromatic. Newton, 265-1042.

NEW 9x12 TENT w/floor, Cook's brand, $38; Sear's sofa bed, $30. Pitti, 836 Georgia SE, AL 6-1629.

PENTRON TAPE RECORDER, two track monaural, two speed, not Hi-Fi but useable, $15. Henry, 256-2467.

'60 PONTIAC Sport Coupe, R&H, auto. trans., 32,000 miles. Quinn, AX 9-5322 after 4:30.

'53 FORD V-8, manual transmission, seat belts, pump and carburetor, $200. Pace, AX 9-5036.

3-BDR., landscaped, large flagstone patio, near park, schools, sprinklers, carpeted, refinance or trade. Rose, DI 4-8592.

BASENJI PUPS, registered AKC, intelligent and affectionate animals, good house or hunting dogs. Weart, AX 8-0614.

'58 JAGUAR, 3.4 Litre, R&H, 4-dr. sedan, 4-speed, OD, off-white exterior, black leather interior. Williams, DI 4-5072 or AL 6-0701.

'56 CHEVY ½-ton pickup, 6-cylinder, 3-speed, R&H. Brock, AX 9-3954.

WEDDING GOWN, Nancy Hamilton, floor length, hand-clipped Chantilly lace and tulle, finger-tip veil w/pearl coronet. Duggin, 298-1136.

GO-KART, low-powered, fine for children, strong enough for adults, $39. Weber, AX 9-1389.

15 HP OUTBOARD MOTOR, Sea King, new, $275, list price $338, terms. Hinman, AM 8-8550.

DELUXE WESTINGHOUSE automatic washer. Bliss. 255-7980.

MOSSMAN 3-bdr., pullman bath, fireplace, a/c, carpet, drapes, covered patio, corner lot, FHA appraisal $14,250. Larsen, AX 9-3496.

'62 AIRLINER, 8'x36', 1-bdr., used six months, completely furnished, $3300. Phillips, 255-0143.

AIR CONDITIONER, 4000 cu. ft. Arctic Circle, used ½ season, 2-speed, window or roof mount, $75. Atkisson, 299-7536.

COLEMAN WALL HEATER (2 sides) w/fan and thermostat, 55,000 BTU, $60. Gotchall, AX 9-1723.

TWO room evaporative coolers, $12 and $10; 16' x 16' heavy canvas tent, $60. Breitenbach, 268-7900.

TWO-WHEEL hauling trailer, metal frame, springs 42"x72" wooden bed w/bumper hitch, $50. Barber, 299-4287.

'56 PLYMOUTH 4-dr. sedan, standard transmission, V-8 engine, $349. Olson, AL 5-8360.

'50 STUDEBAKER, $175; refrigerator, $70; small gas range, $55; drafting table, $25. Ortega, 256-6662.

TRAILER, 2-wheel utility, 5x10' bed, 600x16 tires, $50 cash or best offer. Erne, AX 9-0565.

NEW LADIES SHOE ice skates, size 7; new ladies rink roller shoe skates, size 7. Lee, AX 9-6936.

AKC registered Pekingese 5 yr. old female, sable, $15; new Hi Standard model K10 12 ga. shotgun, 2 ¾" chamber, $55, Lindsey, 298-0818.

KINSMAN DUCHESS ORGAN, two manual foot pedals, bench, and music, $650. Johnson, BU 2-3240.

3-BDR., 1 ¾ baths, a/c, drapes, no qualifying, GI, near school, golf course, swimming pool, base, double garage, fireplace. Nelson, AX 8-0847.

4-BDR HOUSE, 2040 sq ft., 1 ¾ bath, dbl. garage, 26' living room, built-in electric kitchen, a/c, patio, ww carpet, sprinklers, $17,500, no down GI, low down FHA. Bassett, 299-5685.

ELECTRIC RANGE, Frigidaire 30", white, free-standing, automatic oven, timer, $55. Sims, AL 5-6967.

'60 VESPA, 150 cc. 8600 miles, new cables, extras. Gazdig, AL 5-0038.

'49 DESOTO delux convertible, one owner, 50,000 miles, needs top, $125. Harker, 282-3435.

'52 PLYMOUTH 2-dr. standard transmission. Dyer, 1412 Glorieta, AX 9-5324.

ASHCRAFT RESALE, 3-bdr., entry hall, sprinkler systems, hw/floors, drapes, FHA appraisal, $17,000, 1104 Alcazar NE. Andes, AM 8-8951.

'49 CHEVROLET, 4-dr. Smith, 299-8259.

'58 RAMBLER REBEL V8 custom 4-dr. sedan, standard transmission w/OD. Holmes, AX 9-4167.

5KW120V ONAN generator 4-cyl. engine gasoline/LP gas; Pinto Welsh mountain pony and 9 mo. filly sired by Appaloosa champion. Illing, 268-7932.

CANON 35 mm camera, F1.9 lens, $75; tape recorder, 10 watt output, dual speakers, $75. Iverson, 298-1936.

18 ACRES w/cabin in Manzano mountains, tall pines w/stream; also 5-acre tract w/cabin site in same area. Luehring, DI 4-2676.

COMBINATION car playpen-bed, car baby pullman bed; evaporative type car air conditioner w/fan. $5 each. Nix, 2813 Virginia NE, 298-4282.

BELL AND HOWELL 16 mm sound projector; Johnson messenger mobile rig; cigar store Indian, life-size; DKW shop manual. Laskar, AX 9-1024.

HOUSE, 3-bdr, den, all appliances, corner lot, landscaped, near University and bases, 1209 Vassar SE. Shurter, 268-0490.

2 BROWN TWEED LOUNGES w/bolsters, innerspring construction, can be used as twin beds, cost $135, sell for $50. Hart, AX 9-1123.

PUPPIES, Cocker cross, all black, one female, two males, 6 wks. old. Teague, AX 9-8612.

3-BDR. SNOW, a/c, carpeted, walled, established neighborhood, two blocks north of Menaul, $350 down FHA. Ray, 298-0408. Call Sunday.

SURF-BOARD type sailboat, never used, $50 or best offer, '57 2-dr. Dodge Coronet, 2-tone, R&H, $600. Montoya, DI 4-6222.

KNIGHT SCOPE and stand $40; Clinton A-490 Panther 2½ HP engine, 2-cycle, best offer, Rothwell, 243-7532.

RCA portable TV. Miller, 298-2850 after 5 p.m.

2-BDR BY OWNER, attached garage, carpet, drapes, a/c, walled, $11,200 no qualifying. 2907 Hyder SE. Norton, AM 8-6308.

ROTARY POWER MOWER, reconditioned, B&S engine, catcher included, 1 yr. actual use. Voida, AM 8-8397.

3-BDR MOSSMAN, carpets, drapes, a/c, landscaped, 3113 California, NE; 35 mm slide projector, 100 watt. Church, 299-2175.

RCA walnut console 23" TV, less than 1 yr. old, $250. Christopher, AX 9-5712.

'62 BONNEVILLE PONTIAC, 4-dr. HT, PS, PB, R&H. Ford, AX 8-1357 after 6:30 p.m.

'63 OLDS F-85 Cutlass, sport coupe, V-8, 195 HP, R&H, PS, ww, 4-speed box, bucket seats, 5600 miles. Ives, 298-3213 or 299-1104.

PIANO, remodeled upright, dark finish, $195; kitchen set, yellow formica table, 4 chairs, $25. Toft, 298-5678.

BUNKBED SET w/clean mattresses, $45 or best offer; Heathkit AM-FM tuner, $40; Heathkit FM multiplex adaptor, $10; combined price, $45. Sasser, AX 8-1439.

'59 VOLVO, white, R&H, ww/tires, one owner, $885. Jeffers, AX 9-8124.

'57 FORD V-8, Fairlane, 4-dr., tinted glass, automatic transmission, original owner. Smith, 268-2141.

HI-FI EQUIPMENT, Rek-o-kut K33H turntable and Scott LT-10 FM tuner. Phipps, 268-4136 after 5 p.m.

FOR RENT

DUPLEX, stove and refrigerator, near Sandia Base, garabage and water paid, 417 Rhode Island SE. Saavedra, TR 7-0259.

UNFURNISHED, new, 2-bdr. apt., a/c, central heating, electric kitchen, refrigerator, storage area, no pets, $80 and $95. Matson, 210 Charleston NE, Apt. 4 or 268-4814.

WANTED

TO SWAP '61 Mercury for '61 Volvo any body style, will boot depending on body style, condition. Ernst, 268-9414.

SET of box springs and mattress, twin bed size, prefer firm type. Stevens, AX 9-6086.

RIDERS to join car pool from vicinity of Valencia, east of Los Lunas. Shuman, Los Lunas 865-9329.

HOME for kittens, 2 left, tricolor; golf cart in good condition with or without bag. Arthur, AX 9-7044.

CALLIOPE, steam or air operated, small carnival size desired. Burnett, CH 3-2758.

BUGLERS AND DRUMMERS to join "The Dukes of Albuquerque" Drum and Bugle Corps. No auditions but some musical experience necessary. Zownir, AL 6-3717; Chavez, AL 5-1585; or Foster AX 9-7910.

USED PIANO, console or upright. Alden, AL 5-4827 after 1 p.m.

HOMES for Calico Kate's newest grandkittens. Johnson, AL 5-8851.

USED monaural tape recorder and table saw. Howard, 282-3158.

RIDE or join carpool from Corrales to Gate 7. Cafferty, 344-1806.

POLE-VAULTING POLE, 12' to 15'; pole-vaulting crossbar. Holstrom, DI 4-5216.

LOST AND FOUND

LOST—At the Base—Billfold w/important papers and $125, no questions asked, reward, contact Manuel Vallejos 243-3684 or ext. 28258.

LOST—gold Lame man's sport coat costume at Coronado Club 3/27/63, reward, Haley, DI 4-3919 or ext. 45259.

LOST—radio booklet, gray plastic frame glasses, beige coat button, key to Ford-Porsche, gold necklace, prescription gold rim sunglasses, Parker pen engraved Paul Espersen, ring w/2 pearls, contact lens in case, gray jacket, 10-yr. SC tie chain, tan Esterbrook pen, black frame prescription sunglasses. LOST AND FOUND, ext. 29157.

FOUND—Wine color bracelet, gray tweed coat, keys, Samsonite, 2 on wire, brown snap case; brown frame safety glasses, tobacco pouch, cameo earring. LOST AND FOUND, ext. 29157.

Weapon Data Indexing Committee To Meet At Livermore April 23-25

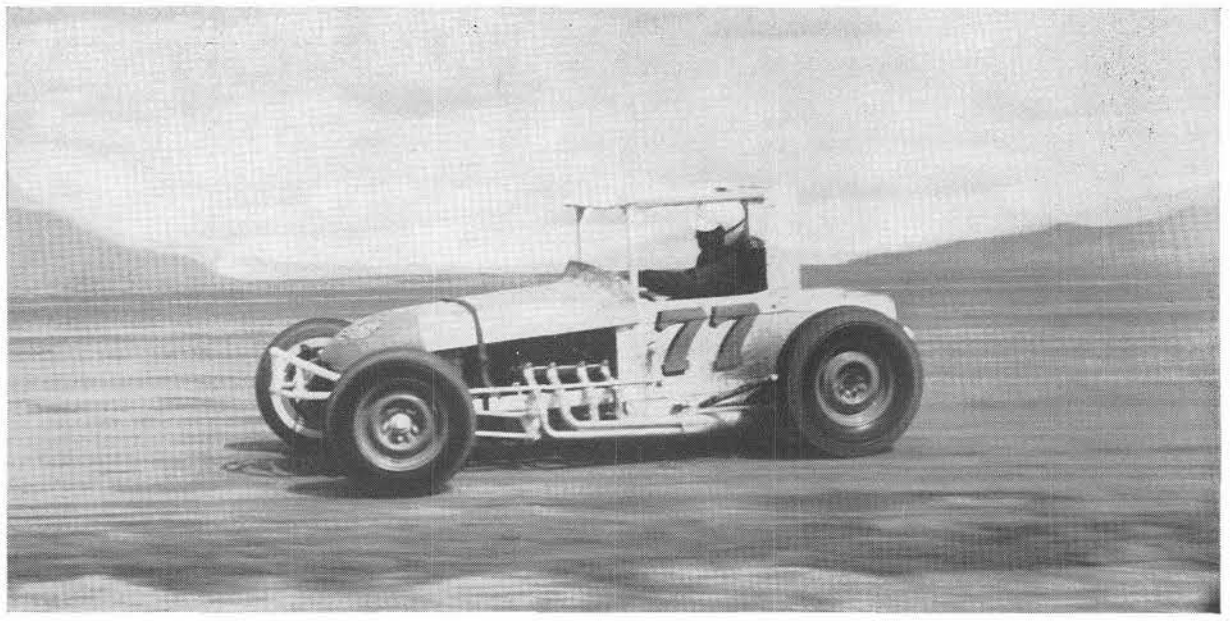
Representatives of a special library group will meet at Livermore Laboratory Apr. 23-25 to discuss methods of improving the retrievability of information in the nuclear weapons program. The meeting coincides with National Library Week.

The Cooperative Weapon Data Indexing Committee, as the group is known, meets twice a year at locations convenient to member agencies. The meeting marks the first time the group will meet at Livermore Laboratory, which is the newest member of the committee. The committee was organized in 1951 at the request of the AEC's Division of Military Application. The group was formed to maintain bibliographic control over the multitude of weapon data reports generated within the AEC-DOD complex.

Host to the group at Livermore Laboratory will be Elizabeth Bodie, Librarian in Technical Library Section 8233-2.

The committee, through the Department of Technical Information Extension at Oak Ridge, Tenn., publishes card indexing of all weapon data reports. Currently, more than 100,000 cards are contained in the index. The Company's Sandia and Livermore Laboratories are two of the eight member agencies contributing data to this index. Others include the Defense Atomic Support Agency Headquarters, the DASA Field Command, Kirtland Air Force Base Special Weapons Center, Los Alamos Scientific Laboratory, Lawrence Radiation Laboratory, and the Department of Technical Information Extension.

Two non-member agencies participating include Picatinny Arsenal and the Bureau of Naval Weapons. Chairman of the committee is Walter Kee, Chief of the Library, Division of Technical Information, AEC. The Division of Military Application is represented on the committee by Ralph Schull. Bertha Allen (3421) represents Sandia Laboratory.



SPEED TRIALS — Paul Leonard (4622) gives his home-built modified stock car a rough workout at 90 mph anticipating the start of racing season Sunday, Apr. 14, at Speedway Park. Dave Paschal (4413) and Al Demaree (4573) will also drive cars in the opening races. Competition is sponsored by New Mexico Motor Racing Assn.

Army Reports Nike Zeus Successful In Reentry Target Vehicle Interception

The U.S. Army's Nike Zeus anti-missile missile system successfully intercepted a reentry target vehicle launched by a Titan intercontinental ballistic missile recently in another of a series of continuing development tests, the Department of Defense announced Apr. 4.

Th Nike Zeus missile was fired and controlled from the Army test installation at the Pacific Missile Range Facility, Kwajalein Island, in the Southwest Pacific.

The Army said ground tracking equipment indicated that the target vehicle was within lethal radius of the Zeus operational warhead.

Neither the intercepting missile nor the target vehicle carried a nuclear warhead.

Ground distance from Kwajalein and the altitude at which the intercept took place were not disclosed.

The target vehicle was boosted to ICBM velocity on a 5,000-mile trajectory from Vandenberg Air Force Base, Calif., using a Titan I ICBM booster fired as a training exercise by a crew of the Strategic Air Command.

The intercept occurred outside of the atmosphere in the terminal portion of the trajectory. The capability of intercepting single target vehicles launched by ICBMs under R&D conditions is a valuable aid to our understanding of the basic factors involved in problems in this field.

Knowledge gained in the continuing series of Nike Zeus intercept tests from Kwajalein will be of benefit to the Army in the development of the Nike X anti-missile missile system. The Nike X, an advanced version of the Nike Zeus system, will include advanced radar, the Nike Zeus for long-range intercept, and the high-acceleration Sprint missile for short-range intercept.

Testing of the Nike Zeus system using ICBM launched target vehicles will continue on the Pacific Missile Range.

Nike Zeus is under the management of the U.S. Army Materiel Command in Washington, D.C. Project management is centered at Redstone Arsenal, Ala. Col. I. O. Drewry is the Nike Zeus project manager.

Supervisory Appointments

WALTER C. HUNTER to manager of Physical and Electrical Standards Department 2410.

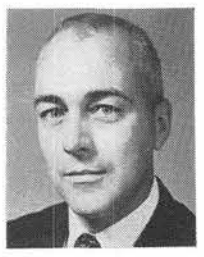
He reported to Sandia Laboratory in September 1952 as a staff member in System Test Equipment Development Department 2440. Two years later, Walter was promoted to supervisor of Electrical Standards Division 2412, and has since headed the Reactor Division in 5300 and two other divisions in 2400.

He is on leave of absence from Bell Telephone Laboratories, which he joined in October 1944. His assignments at New York City, Whippany, and Murray Hill included work on radio telephone design and microwave television short haul link.

Previously, Walter taught electrical engineering at Oklahoma State University, and chemistry and mathematics at the high school level in Enid, Okla.

He holds a Bachelor's degree in physics and math, and Master's in administration from Phillips University, Enid, and is a senior member of the Institute of Electrical and Electronic Engineers.

RICHARD D. VOLK to supervisor of Tube Engineering Section 1413-1, Tube Development Division.



Dick has been in the Electronic Devices Department since he came to Sandia nearly five years ago.

Previously, he served eight years in the Air Force as a pilot, and worked with airborne and ground radar.

Dick has a BS degree in electrical engineering from the University of New Mexico and is nearing completion of requirements for his Master's degree. He is a member of Kappa Mu Epsilon and Sigma Tau, honorary societies.

ARLIN D. PEPMUELLER to manager of Information, Reproduction, and Material Control Department 8230, Livermore Laboratory.

When "Pep" joined Sandia in October 1950, he worked first as a methods investigator and later as a methods planner. In August 1952, he was promoted to supervisor of the Methods Division. Before transferring to Livermore Laboratory in 1960, he served for varying periods as supervisor of the Technical Library, Technical Information, Scheduling and Ordering, and Personnel Development organizations.

At the time Pep came to Sandia, he had just completed one and a half years toward a PhD degree in economics and labor at the State University of Iowa, where he was awarded his Master's degree in business administration in 1945. He received his BA degree in commerce from Wartburg College, Waverly, Iowa, in 1943. He also attended the University of New Mexico where he completed 10 semester credits of mathematics.

His previous employment has included two years as office manager of an automobile firm in Oroville, Calif., and five years as a high school teacher of business courses.

Pep is a member of the Institute of Electrical and Electronic Engineers, and the Society of Technical Writers and Publishers.

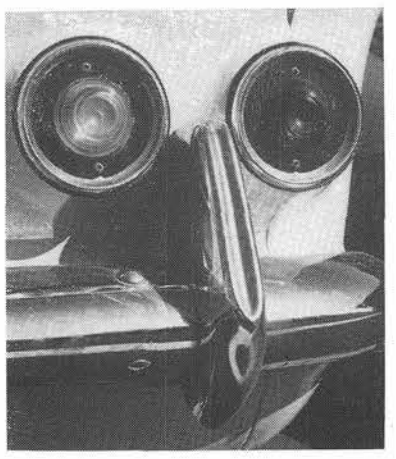
Lloyd E. Fuller to Moderate Conference

Lloyd E. Fuller, manager of Wage and Salary Administration Department 3110, will be moderator at the 18th semi-annual conference of the Midwest Compensation Association, Apr. 25-26 in Chicago.

The program will include speakers on management and compensation administration.

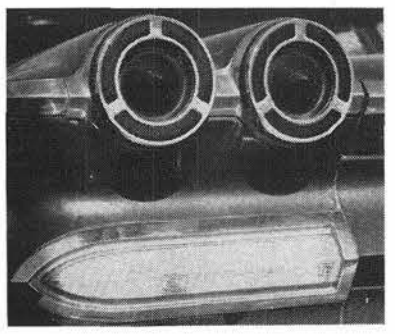
Sandia's Safety Record

Sandia Laboratory	Livermore Laboratory
HAS WORKED	HAS WORKED
1,260,000 MAN HOURS	1,162,000 MAN HOURS
OR 36 DAYS	OR 222 DAYS
WITHOUT A	WITHOUT A
DISABLING INJURY	DISABLING INJURY

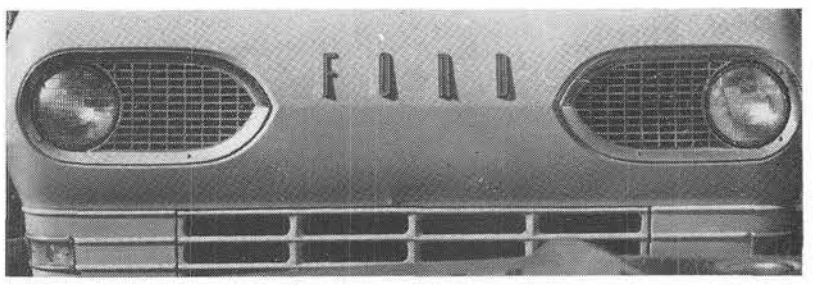


"He said I nosed him out of the traffic line."

"Me and my big mouth! No wonder he splattered me."



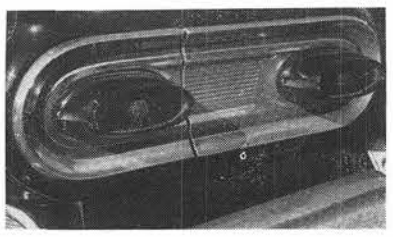
"Who's snarling? I'm as patient as the next guy."



"The way people drive these days, you have to watch both sides of the road at once."

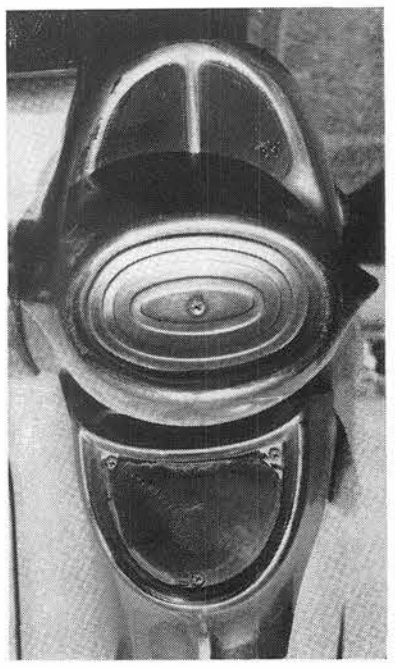
Traffic Safety With A Light Touch

Overheard In Parking Areas

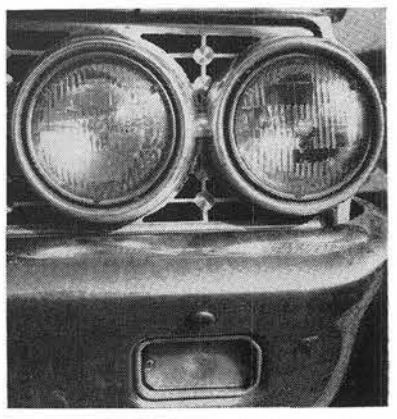


"What do you mean, did I drive all the way from Los Angeles without sleeping?"

"The goggles? They come in pretty handy during parking lot drag races."



"What gives you the idea I drive like a clown?"



"Scared? 63 have died on New Mexico highways this year."