

# SANDIA LAB NEWS



VOL. 19, NO. 19, SEPTEMBER 22, 1967

SANDIA LABORATORIES

ALBUQUERQUE, NEW MEXICO  
LIVERMORE, CALIFORNIA

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



OUTSTANDING PAPER AWARD for the 1967 IEEE Conference on Nuclear and Space Radiation Effects has been won by C. W. Gwyn (left), who is on Sandia educational leave, and J. L. Wirth (5212). The competition was among 42 technical presentations.

## IEEE Top Paper Award Given To Local Men for Third Year

For the past four years the IEEE Conference on Nuclear and Space Radiation Effects has given an award for the outstanding paper presented during its annual meeting. Sandia scientists have just received this recognition for the third time.

The first such award was presented in 1964 to F. M. Smits of Bell Telephone Laboratories, Murray Hill, N. J., and C. A. Goben of the University of Missouri for a technical paper based on work they carried out while with Sandia Laboratory.

The 1966 award went to H. H. Sander and B. L. Gregory (both of 5212).

The outstanding paper at the 1967 conference was co-authored by C. W. Gwyn (now on Sandia educational leave), Donald Scharfetter of Bell Telephone Laboratory, Murray Hill, N. J., and J. L. Wirth (5212). The paper was entitled "The Analysis of Radiation Effects in Semiconductor Junction Devices." The selection was made by a 13-man committee from 42 papers presented during the July meeting in Columbus, Ohio.

The paper will be printed in the December issue of the IEEE TRANSACTIONS ON NUCLEAR SCIENCE. It discusses the use of advanced computer solution techniques to study transient and permanent radiation damage in junction semiconductor devices. The work is an offshoot of a calculational technique developed at BTL for analysis of IMPATT diodes. During the summer of 1966, Mr. Scharfetter was on loan to Sandia to translate a computer program for IMPATT into application for transistors and other junction devices. Since then Division 5212 has extended the program for use in studying radiation damage.

Mr. Wirth, supervisor of Transient Effects Division 5212, has been at Sandia five years. He has BS, MS and PhD degrees in electrical engineering from Michigan State University.

Mr. Gwyn has been with Sandia since 1961. The first two years he was in the TDP program and since then has been assigned to Radiation Physics Department 5210. He received his BS in electrical engineering from the University of Kansas, his MS from the University of New Mexico and is currently working on his doctorate at UNM.

place the traditional group meetings, films and talks with a Laboratory mail campaign. Each employee will receive a letter outlining the community's needs and a

TO  
ALL  
EMPLOYEES



One of my many pleasant surprises since joining Sandia a year ago is the discovery of the excellent participation by Sandians in the United Community Fund, both at Albuquerque and Livermore. This generous and successful performance I associate with the existence of the Employees Contribution Plan.

Let me urge each of you to continue, through this Plan in Albuquerque and the employee drive in Livermore, the kind of support which our communities so desperately need.

*J. A. Humberck*  
President

## Annual ECP Drive Starts Monday; 'Fair Share' Continues to be Goal

Annual drive for the Employees Contribution Plan starts Monday, Sept. 25.

Funds from the ECP are distributed to the Albuquerque United Community Fund plus eight other agencies. The ECP committee, headed by W. L. Stevens (5530), has announced the percentage allocations for the 1968 drive. Allocation of funds is based on the fund-raising records of participating agencies.

The 29 agencies of the United Community Fund will share 82 percent of the ECP funds. The American Cancer Society will receive 4.8 percent, Bernalillo County Heart Association 3.4 percent, Cerebral Palsy Association 1.2 percent, Muscular Dystrophy Association 1.2 percent, Arthritis Foundation 1.9 percent, Multiple Sclerosis Society 1.4 percent, New Mexico Society for Crippled Children and Adults 2.9 percent, and Cystic Fibrosis Association .7 percent. The remaining .5 percent will go into a reserve fund.

Since its inception in 1957, the ECP has provided an effective way for Sandia employees to carry out their support of community programs. Payroll deduction allows a small gift each month to add up to a significant contribution by the end of the year. Over the years, the goal for individual employees has come to mean a "fair share" contribution — one hour's pay each month.

Currently there are 2591 employees who give a fair share. Of these, 101 pledge one percent or more of their income to ECP. Another 3528 employees are members of ECP with a minimum contribution of \$12 per year.

Participation in ECP has increased each year since its beginning. This year, employees will contribute \$263,577 to ECP. The average gift of participants is \$42.

This year the ECP Committee will re-



CHECK THIS—Mary Alice Flores (4311) displays an oversize check mark to remind you to designate this category on your payroll deduction card for the Employees Contribution Plan. A fair share is one hour's pay per month. Lapel pins in the form of a check mark will be worn by fair share contributors next week during the drive.

place the traditional group meetings, films and talks with a Laboratory mail campaign. Each employee will receive a letter outlining the community's needs and a

(Continued on Page Six)

## ECP' NUTS



## Editorial Comment

Money can't be better spent than when it buys happiness, allays fears, saves lives, curtails suffering and gives hope. More than 6000 Sandians recognize this each year as they participate in the Employees Contribution Plan.

Some 101 contribute one percent of their salaries, 2499 are Fair Share givers (one hour's pay per month), and 3528 donate at least a dollar a month—the minimum for membership in ECP. The average gift last year was over \$42.

No one must give to ECP—it's voluntary. It is money well spent, but even more there's the satisfaction that can't be measured in dollars.

## Project Gasbuggy Nuclear Experiment Scheduled Nov. 14 Near Farmington

Project Gasbuggy, an experiment to stimulate gas production in a "tight" sandstone formation near Farmington, is now scheduled tentatively for Nov. 14. Two Sandia Laboratory Underground Experimentation organizations will participate in the project.

Sandia personnel were at the site last week preparing for the installation of underground instrumentation. The site is 55 air miles east of Farmington over a geological sandstone strata called the Pictured Cliffs formation. Several gas producing wells, operated by El Paso Natural Gas Company, are in the area.

A 20-kiloton nuclear device will be detonated at a depth of 4300 ft. It is expected that the nuclear explosion will fracture the sandstone gas reservoir sufficiently to release about seven times the amount of gas now recoverable at the site.

The project is a joint effort of the Atomic Energy Commission, the Department of the Interior's Bureau of Mines, and El Paso Natural Gas Company. The AEC's Nevada Operations Office will direct the project. Lawrence Radiation Laboratory is responsible for developing and executing the technical program in cooperation with El Paso Natural Gas and the Bureau of Mines.

Sandia's A&F Field Support Division 7132 under R. K. Petersen will provide the arming and firing system design for the device and will perform arming and firing support at the site. R. J. Burton, supervisor of LRL Field Support Section 7131-1, is project engineer. Participating are L. E. Hake and J. H. Fuqua.

Instrumentation Fielding Division I 7123 under B. C. Benjamin will perform two earth motion studies for the project. The division will provide instruments and operational support for a free-field (the undisturbed shock wave originating from the detonation and moving outward through the earth from the device) earth motion study. Instruments will be placed in a deep drill hole at varying depths from below the device to near the surface.

Surface earth motion will be the concern of the second study. Instruments will be placed at varying distances from ground zero outward to several thousand feet to measure surface movement resulting from the detonation.

K. B. Kimball is project leader for the earth motion studies assisted by D. B. List. W. R. Perret of Underground Physics Division 7111 is scientific director.

The nuclear explosion will vaporize the

rock around it and create a chamber deep below the surface. The roof of the chamber is expected to fall in and trap most of the radioactivity. As the roof falls, a "chimney" or an area of broken rock will be created above the chamber. Gas is expected to flow into this large area through the fractures which will extend in all directions.

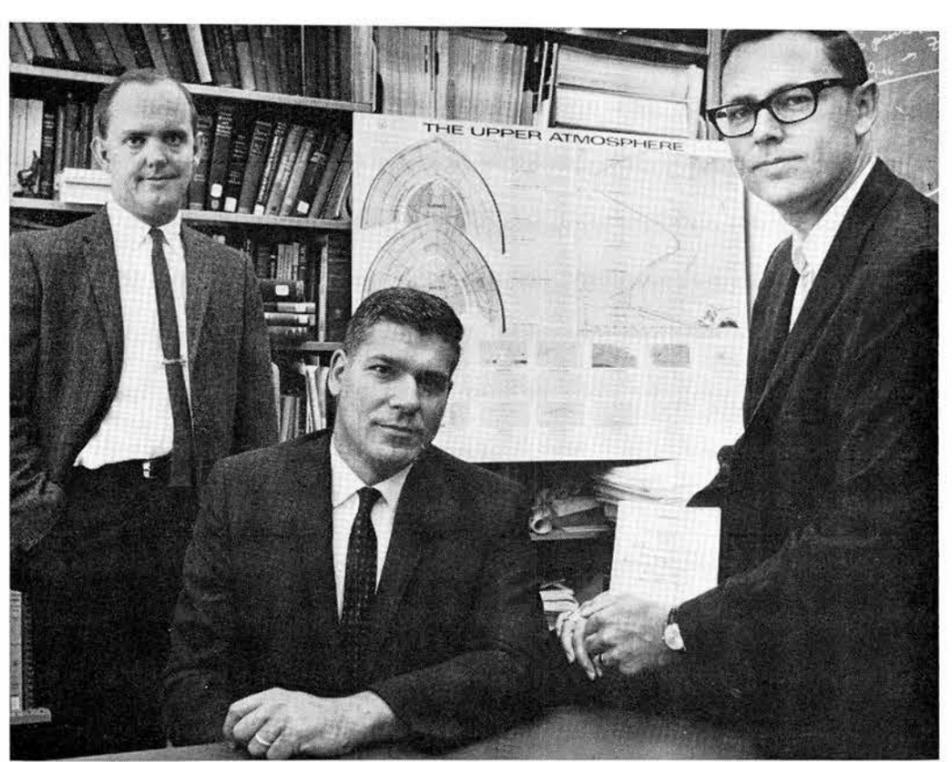
A re-entry well will be drilled into the chimney to gather samples of the gas. From this and the increased production from the existing gas wells, information will be obtained to measure the amount of gas released and to determine reservoir characteristics. Information gained from Gasbuggy will be the first step toward evaluating commercial use of nuclear stimulation.

If a successful nuclear fracturing technique can be developed as a result of Project Gasbuggy, it may find widespread applications in similar tight formations in the United States, principally in the Rocky Mountain region. The Bureau of Mines has estimated that the technique could add 317 trillion cubic feet of natural gas to the nation's proved reserves, more than doubling the present supply.

## Micrometeorological Data Presented in Canada

The AEC Micrometeorological Information Meeting, held at Chalk River, Ontario, Canada, Sept. 11, included presentations by three Sandians.

"A Computer Programmed Model for Calculation of Fall and Dispersion of Particles in the Atmosphere" was presented by H. W. Church (5234), "Difout: An Atmospheric Transport and Diffusion Model" was given by R. E. Luna (5234) and a talk by R. E. Smith (9311) was entitled "Investigation of TMAE (Tetrakis Dimethylamino Ethylene), A Chemiluminescent Material, as an Atmospheric Tracer."



FORTHCOMING joint annual meeting of three technical societies, to be held in Albuquerque Sept. 29-30, represents planning by R. T. Meyer (5234), right, general chairman for the N. M. Academy of Science; J. M. Hoffman (4233), center, physical sciences symposium chairman; and co-chairmen for the biological sciences symposium D. C. Williams (5234), left, and W. D. Burnett (3311), not shown.

## Three Technical Societies Plan Annual Meetings — Joint Symposium

A Biological Sciences Symposium on "Radiobiology and Inhalation Toxicity" will be a feature of a joint annual meeting of three technical societies to be held in Albuquerque Sept. 29-30.

The sponsors are the New Mexico Academy of Science, the Rio Grande Chapter of the Health Physics Society, and the Rocky Mountain Section of the American Industrial Hygiene Association. The sessions will be held at Sandia in Bldg. 815 and at the Coronado Club. Total attendance is expected to reach 250.

In general, the meeting will include: Friday morning — AIHA session on industrial hygiene; Friday afternoon — the joint biological sciences symposium and a physical sciences symposium on atmospheric research, sponsored by the Academy of Science; Friday night — banquet; Saturday morning — NMAA-contributed papers on physical and biological sciences and joint meetings of the other two groups on pertinent topics.

R. T. Meyer (5234) is general chairman for the Academy portion of the meeting. J. M. Hoffman (5233) organized the physical sciences symposium and is program chairman for this symposium. Program co-chairmen for the biological sciences symposium are D. C. Williams (5234) and W. D. Burnett (3311). G. E. Tucker (3313) is in charge of banquet and motel arrangements and R. A. Sallach (5234) is handling banquet ticket sales for the Academy.

The joint banquet will be held Sept. 29 at Sheraton-Western Skies and will feature the NMAA Annual Award and HPS

Award presentations. B. H. Van Domelen (5530), science advisor to the Governor of New Mexico, will speak on "Activities of the Governor's Scientific Advisory Council and Project Gasbuggy."

The sixth annual New Mexico Academy of Science award will be presented to R. S. Claassen, director of Physical Research 5100, (see related story on page eight). The HPS Award recipient will not be announced in advance.

The banquet is scheduled for 6 p.m. and will conclude in time for attendance at the William Randolph Lovelace II lecture at 8 p.m., University of New Mexico Concert Hall. R. C. Seamans, deputy administrator, NASA, will speak on "Man's Role in Space Flight."

On Friday afternoon, after welcoming remarks by W. J. Howard, Vice President 1000, the keynote speaker for the Biological Sciences Symposium will be H. D. Bruner, assistant director for medical and health research, AEC Division of Biology and Medicine, Washington, D. C. He will discuss national and international knowledge of and need for research in radiobiology.

Members of Sandia's Environmental Health Department 3310 will participate in AIHA and HPS sections of the meeting. W. H. Kingsley and L. W. Brewer will be chairmen of two sessions. Anthony Juskiwicz will present a paper entitled "The Respirator Program at Sandia" and D. R. Parker will discuss "Trichlorethylene Exposure."

R. C. Fletcher, Vice President 5000, will welcome attendees to the physical sciences symposium on atmospheric research. D. F. Rex, associate director, National Center for Atmospheric Research, Boulder, Colo., will present the keynote address on "Survey of the Current and Future Scientific Programs of the National Center for Atmospheric Research."

The Saturday morning Academy of Science sessions will include the following Sandia papers: "Ionization and Electron Transfer in Collisions of Two H Atoms: 1.25-117 keV" by G. W. McClure (5121); "The Wettability of Solid Ceramics by Liquid Metals" by J. G. Eberhart (1111); and "Parachute Development at Sandia" by W. B. Pepper (9324).

Other participants in the meetings will include representatives of universities from throughout the state, Lovelace Foundation, Sacramento Peak Observatory, Los Alamos Scientific Laboratory, New Mexico State Health Department, Colorado State Health Department, Air Force Weapons Laboratory at Kirtland AFB, Albuquerque City Health Department, and Eberline Instrument Corporation.

There will be a tour of the Sandia Sphere of Science from 10 a.m. to noon on Friday.

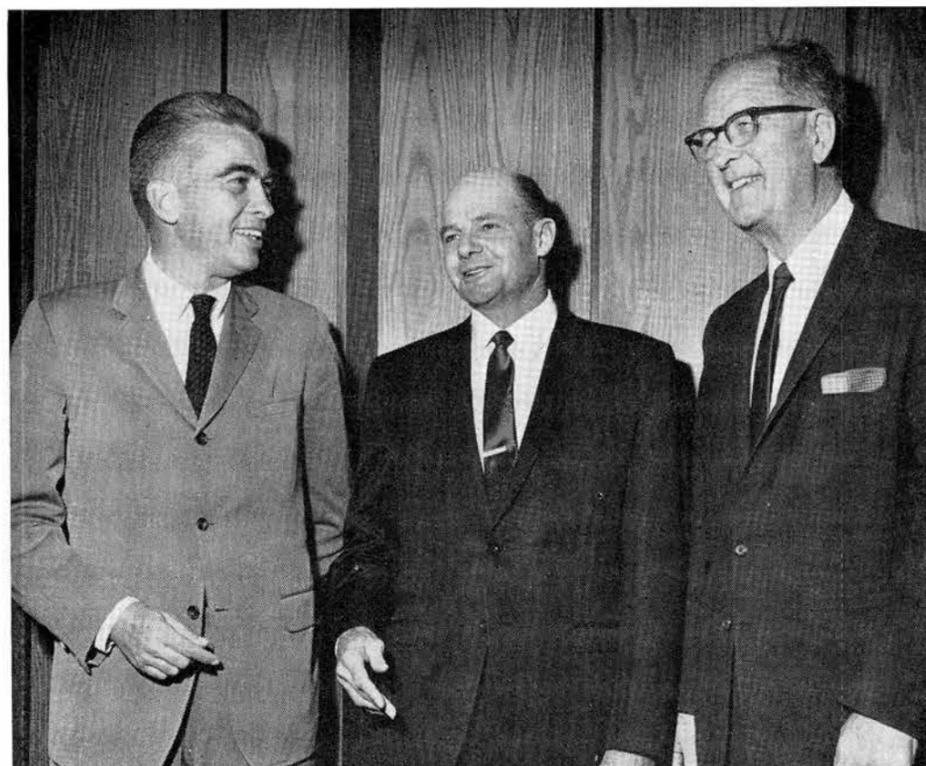
## Congratulations

Mr. and Mrs. L. T. Savage (9233), a son, Ethan Turner, Aug. 26.

Mr. and Mrs. R. H. Croll, Jr. (9322), a daughter, Amy Beth, Sept. 2.

Mr. and Mrs. L. K. Porter (9233), a daughter, Susan Diane, Sept. 5.

Mr. and Mrs. B. F. Davis (9233), a son, Michael Foreman, Sept. 12.



VISITING SANDIA LABORATORY last week for technical briefings were members of the Joint Committee on Atomic Energy. Talking with President John A. Hornbeck (left) are Representative Thomas G. Morris and Senator Clinton P. Anderson.

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"Any contribution seems small when you see the priceless care helpless infants get."

Rodger Page (8137)



"Why not give this child a chance to get its 'fair share' of happiness?"

(l to r) Dave Abrahams (8233)  
Sy Mayer (8124)  
Ray Newton (8222)



"The only bright spot in some senior citizen's life may be in a program such as this."

(l to r) Al Harrison (8222)  
Mary Sites (8232)



"The Crusade gives senior citizens an opportunity to be useful and creative."

(standing center) Emily Joiner (8212)

## SCLL Goal \$22,000

# 1967 UBAC Drive Starts on Monday

On Monday employees at Livermore Laboratory will begin the annual fund drive to support the United Bay Area Crusade. During the week-long campaign, solicitors will contact each employee. A goal of \$22,000 has been set for the Laboratory.

"As employees consider their contributions, we ask that they keep in mind this year's Crusade Slogan 'People Need Help,' and examine carefully the good their gift provides through a United Crusade," says Campaign Chairman Marv Glaze (8243).

Crusade funds help to support 176 agencies which fulfill vital needs of the youth, family, senior citizen, and health service activities.

To further an understanding and awareness of the purpose of and need for the Crusade, employees are being invited to attend group meetings on Monday and Tuesday.

These meetings will feature a new 10-minute UBAC color film, "One Family," that effectively tells the Crusade story. Employees will also hear brief talks by a group of Sandians who recently visited two UBAC agencies in Alameda County.

The first stop was at the Children's Home Society in Oakland, the nation's largest voluntarily supported foster home and adoption agency, followed by a visit to the Jewish Community Center of Alameda and Contra Costa Counties (also in Oakland) where a weekly meeting of the senior citizen group was in progress. Touring these agencies for an on-the-spot look at the facilities and services they provide were: Campaign Chairman Marv Glaze, Dave Abrahams (8233), Al Harrison (8222), Emily Joiner (8212), Sy Mayer (8124), Ray Newton (8222), Rodger Page (8137), Mary Sites (8232) and Roy Wilcox (8252).

As in the past, pledge cards will be given to each employee by his solicitor. Instructions for filling out the card are on the reverse side and employees are asked to read these instructions carefully before completing the form.

A payroll deduction plan is available again this year as a convenience in spreading contributions over a 12-month period. Employees may indicate on their pledge card how much they would like deducted from each pay check, plus the date the deduction should begin.

"Employees are being urged to contribute a 'fair share'—one hour's pay per month for incomes under \$10,000 or one per cent of gross income if over \$10,000," Marv says. "All the employee has to do is check the 'fair share' block and sign the card." The card will be forwarded by the solicitor to the payroll organization where the employee's contribution will be computed.

Those who give a 'fair share' will receive a Fair Share pin.

Squad leaders and solicitors conducting the campaign this year are:

### Squad Leaders

G. J. Miller (8110), B. J. Kraemer (8120), D. L. Miller (8130), R. E. Rychnovsky (8140), A. C. Skinrod (8150), K. G. Byrne (8160), W. J. Henderson (8210), F. Petrini (8220), J. L. Daniel (8230), G. W. Perkins (8240), H. V. McNabney (8250, 5510 and 7132-1), and J. F. Dremalas (8252).

### Solicitors

Solicitors for supervision are: J. W. Pearce, A. D. Pepmueller, J. S. Anderson, B. F. Hefley, M. O. Jones, J. H. Maffit, A. R. Willis, A. A. Alford, K. J. Bennett, R. A. Ware; and for department secretaries Mrs. J. M. Bayless.

8110: J. S. Meeks (8112), O. K. Chappell (8112-1), A. W. Kellom (8113), Mrs. J. Mansfield (8114 and 8115), G. R. Ruzicka (8117), E. J. Bennett (8117-1 and 8117-2), E. L. McKelvey (8119), J. C. Curtin (8119-1).

8120: W. R. Wall (8121), S. W. Mayer, Jr. (8124), C. M. Shanabarger (8125), Mrs. B. J. Russo (8127), F. W. Kent (8127-1), Mrs. V. A. Common and R. D. Cozzo (8128).

8130: L. E. Lindbloom (8131), W. E. Landt (8132 and 8139), F. P. Dowell (8135), H. Hanser (8137), C. F. Lundbom, Jr. (8138).

8140: J. P. Darginis (8141), R. E. Gott (8142), G. G. Oliver (8142-1), P. O. Witze (8146), C. F. Dodge (8147), L. M. Dorety (8148 and 8149).

8150: P. L. Stewart and L. D. Zirkle (8151), L. N. Tallericco (8152), T. Brugier and C. T. Yokomizo (8154), H. B. Faires

(8155), G. R. Otey (8158).

8160: J. R. Wimborough (8161), Mrs. R. L. Kamp (8161-1), G. M. Priebat (8163), R. C. Frost (8164), J. R. Vieira (8166), M. H. Nelson (8168).

8210: C. A. Wackerly (8211 and 8213), J. P. O'Neil (8212), W. L. Miller (8214), Mrs. C. J. Jacobs (8215).

8220: E. R. Newton, A. B. Harrison, H. E. Hunt and O. I. Curtice (8222), V. C. Krause and B. B. Lavinsky (8223-1), R. W. Freeze (8223-2), P. L. Freeman (8223-3), A. Turner (8223-5), H. F. Woidtke (8226-2).

8230: Mrs. C. K. McGregor (8231), Mrs. I. R. Olson (8232), T. A. Gleason (8233 and 8233-2), N. G. Wittmayer (8233-3), Mrs. S. A. Rupp (8234 and 8235) J. W. Ackerman and Mrs. J. M. Wikkerink (8235-1).

8240: Mrs. M. E. Sparger (8241), A. J. Derby (8243), Mrs. D. C. Cook (8243-1), E. S. Kuroski (8243-2), Mrs. Z. M. Creager (8245-1), J. N. Barnhouse, Jr. (8245-2), D. L. Vanhouten (8245-3), Mrs. M. A. Purvis (8245-4).

8250: M. L. Sleder (8251), T. Kisaoka and K. Urabe (8252-1), K. L. Tschritter and J. L. Ulibarri (8252-2), Miss T. A. Mata and C. A. Seibel (8252-3), R. P. Crawford (8252-4), L. A. Borello (8252-5), Mrs. M. E. Barnhouse (8253-1), Mrs. F. P. Lenz (8253-2), Mrs. S. G. Signor (8253-3), W. A. McWhorter (8254), Mrs. C. J. Jacobs (8255).

5510: M. G. Hicks.

7132: L. E. Hake.

# LIVERMORE NEWS

VOL. 19, NO. 19

SANDIA LAB NEWS

SEPTEMBER 22, 1967

## Welcome . . . Newcomers

Aug. 29 - Sept. 13

California	
Annamae Miskel, Pleasanton	8215
Pamela J. Robinson, Pleasanton	8212
Washington	
Dean L. Miller, Seattle	8137
James R. Smith, Seattle	8112
Returned From Leave	
Cecil D. Crawley, Fremont	8222
Transfer From Albuquerque	
Robert S. Neiman, Jr.	8128

## Congratulations

Mr. and Mrs. Jerry Hunting (8168), a daughter, Susan Joy, Aug. 11.

Mr. and Mrs. Joe Portolese (8117), a daughter, Annamarie Gail, Aug. 25.

## Sympathy

To Dick Kenyon (8211) for the death of his mother-in-law in Sacramento, Aug. 14.

To Dan Held (8213) for the death of his father in Tulsa, Okla., Sept. 2.



SANDIANS SEE FIRST HAND that "People Need Help" during a visit to the Children's Home Society and the Jewish Community Center, two of the United Bay Area Crusade agencies in Alameda County. Admiring a five-day-old girl who is awaiting adoption are (l to r) Roy Wilcox (8252), Mary Sites (8232), and Caryl Hall of the Children's Home.

## Iben Browning to Address Colloquium At SCLL on Sept. 26

Iben Browning, president and executive director of the Thomas Bede Foundation, will speak at the Livermore Laboratory Colloquium to be held Sept. 26. The topic of the talk will be his approach to "Creativity."

In general Dr. Browning's work has been in the fields of biology, chemistry, physics, and engineering. Specific involvement has included phototropisms of insects, design of electronic aeronautical equipment, chlorine resistance of microorganisms, physiology and genetics of protozoa, optical engineering, thin-film electronics, information theory and instrumentation, and satellite instrumentation.

Dr. Browning received a BS degree in physics and math from the Southwest Texas State Teachers College and both MA and PhD degrees in biophysics from the University of Texas. He has published numerous articles on biology and information retrieval. He holds 12 patents and has 18 patents pending.

Further information concerning the Colloquium is posted on the bulletin boards. Tickets are required for admission. J. F. Barham (8119) is serving as host.

## Take Note

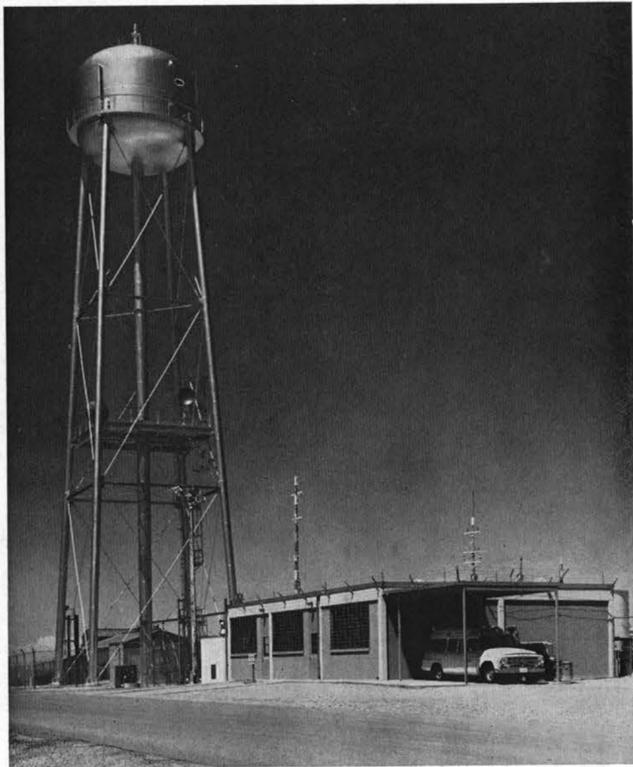
E. O. Williams, Instrumentation System Development Division 8112, presented a technical paper at the Instrument Society of America conference held in Chicago Sept. 11-14. The paper was titled "An Etched Manganin Gage System for Shock Pressure Measurement in High Noise Environment."

\* \* \*

Miles Nelson (8168) took first place and the Bailer's Trophy in the Sandia Thunderbird Sailing Club race held recently at the San Leandro Marina. The event was the club's first scheduled Flying Dutchman Junior (FJ) race.

A 13 ft. 3 in. sloop-rigged sailboat, the FJ is an international one-design class. The FJ boats are raced by the skipper and one crew member. Miles' wife Bonnie crewed on the winning boat.

Other Sandia skippers who raced their FJ's in the event were John Anderson (8155), Vern Byfield (8252), Charles Leonard (8131), Bob Schaefer (8158) and Dick Sundahl (8151).



**Water Tank, Security, First Aid, and Communications Buildings, Tonopah Test Range \$270,000**

## Sandia Construction Projects in Process Total \$6.4 Million; \$7 Million Completed in FY '67

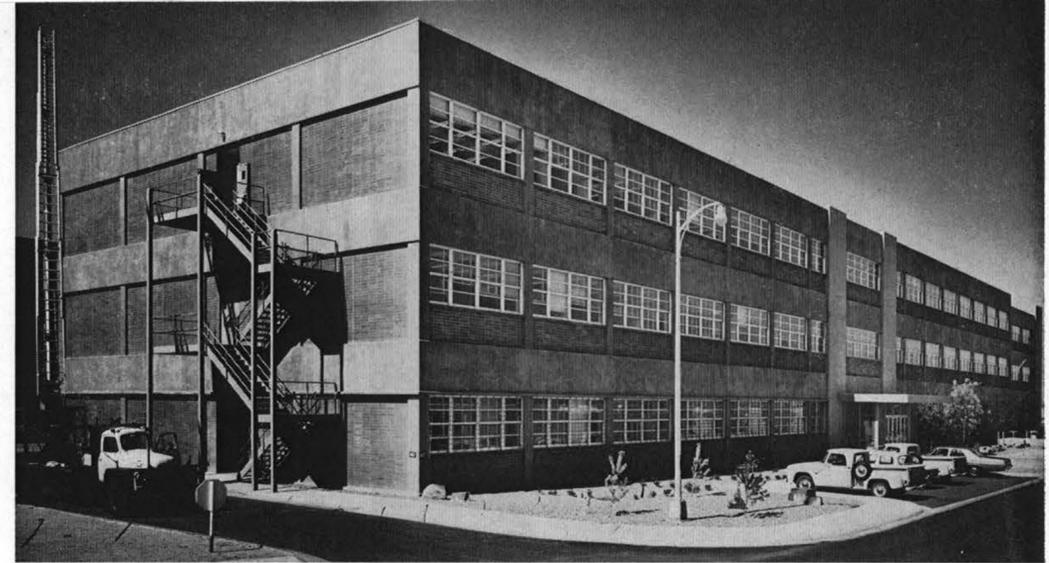
Total value of construction projects now underway at Sandia Laboratory, Livermore Laboratory and Tonopah Test Range will amount to \$6.4 million when completed. These projects, which follow the \$7 million in construction projects completed during the last 12 months, include nine special-purpose facilities valued at \$4.7 million plus additional miscellaneous construction of \$1.7 million.

<b>Construction in Process:</b>	
High Pressure Laboratory, Livermore .....	\$ 80,000
Re-entry Burnup Simulation Test Facility .....	2,620,000
Rocket Motor Conditioning Building .....	100,000
Shock Wave Studies Laboratory, Coyote Test Field .....	220,000
Signal Conditioning Bunker, Coyote Test Field .....	130,000
Explosive Devices Surveillance Lab, Area II ..	150,000
Computer Facility, Bldg. 880 addition .....	920,000
Vacuum Pump System, Bldg. 865 addition .....	140,000
Field Test Laboratory modification, Bldg. 880 ..	360,000
Miscellaneous minor projects .....	1,710,000
<b>Total under construction .....</b>	<b>\$6,430,000</b>

At the end of June 1967, completed plant assets operated by Sandia Corporation for the Atomic Energy Commission amounted to \$206,172,000. This includes buildings and structures, \$52,950,000; improvements to land, \$4,520,000; equipment, \$139,843,000; and utility systems, \$8,859,000. These figures do not include the current construction program or equipment in process.

The \$7 million in construction completed during the past year includes such major projects as Developmental Laboratory Bldg. 807 (occupancy — \$1,470,000; total project cost — \$3,780,000), new rocket sled track (\$1,350,000), Vibration Data and Control Center in Area III (\$640,000), Security, First Aid and Communications buildings and elevated water tank at Tonopah Test Range (\$270,000), and a Fluid Test Facility at Livermore Laboratory (\$140,000).

Shown on these pages are some of the completed facilities and others now under construction. There is not enough space to show pictures of all the construction. However, the resulting spread presents in terms of concrete and steel the magnitude of Sandia's future.



**Bldg. 807, Developmental Laboratory**

**\$3,780,000**



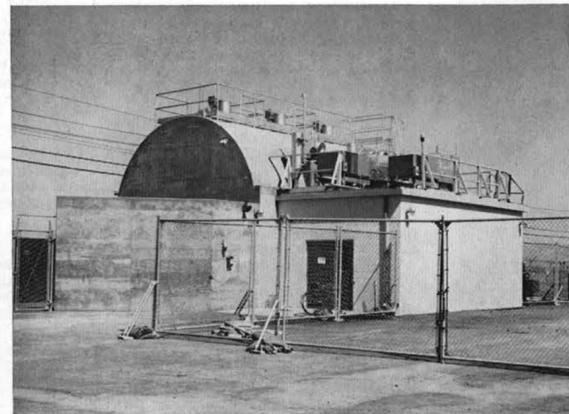
**Bldg. 880, Computer Facility Addition**

**\$920,000**



**Fluid Test Facility, Livermore**

**\$140,000**



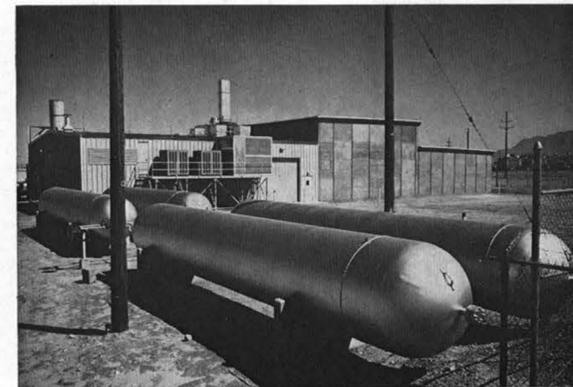
**High Pressure Laboratory, Livermore**

**\$80,000**



**Bldg. 865 Addition, Vacuum Pump System**

**\$140,000**



**Reentry Burnup Simulation Test Facility**

**\$2,620,000**



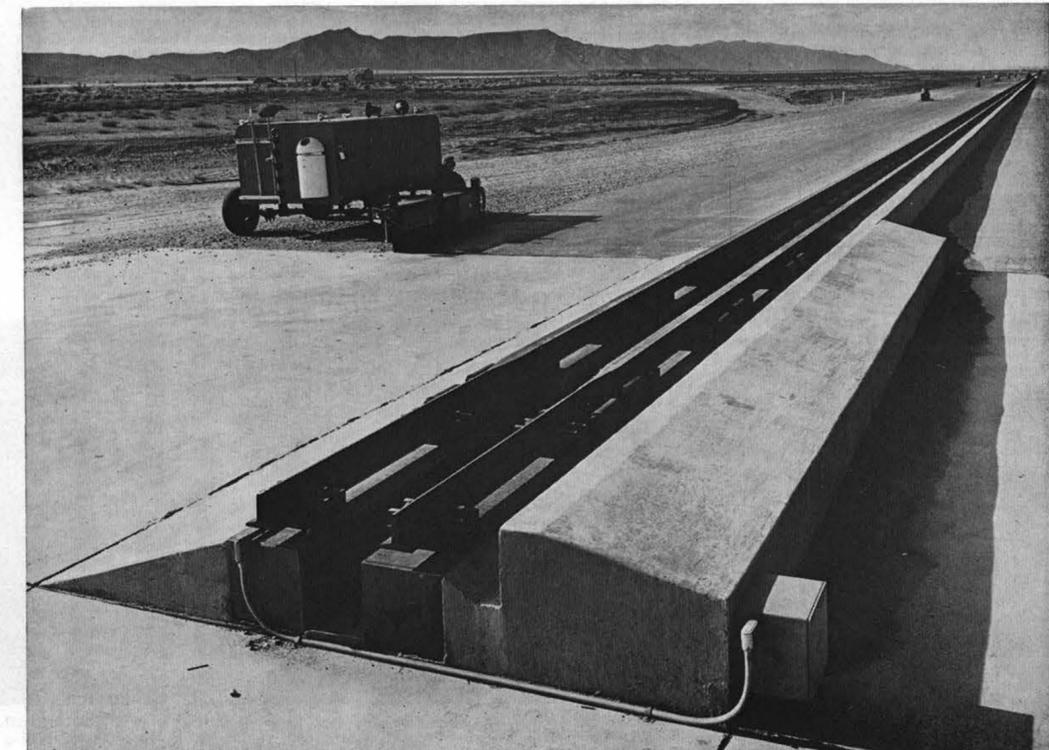
**Vibration Data Control Center, Area III**

**\$640,000**



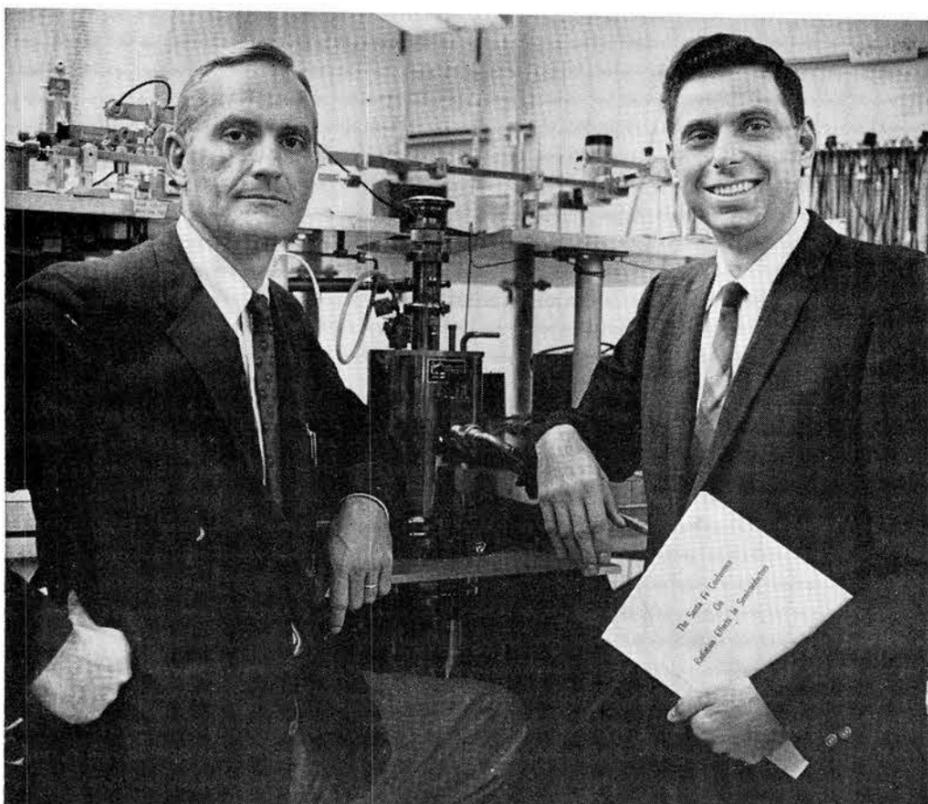
**Rocket Motor Conditioning Building, Area III**

**\$100,000**



**Rocket Sled Track, Area III**

**\$1,350,000**



CO-CHAIRMEN for the forthcoming Santa Fe Conference on Radiation Effects in Semiconductors are J. C. King (5210), left, and F. L. Vook (5211). In the background is an electro magnetic resonance spectrometer used in research studies in this field.

## Sandia Sponsors International Meet on Radiation Effects in Semiconductors

Some 125 scientists are expected to attend the Santa Fe Conference on Radiation Effects in Semiconductors, sponsored by Sandia Laboratory and supported by the U. S. Atomic Energy Commission.

This international conference, designed to bring about a greater understanding of the fundamental problems of radiation-induced defects in semiconductors, will be held Oct. 3-5 at Bishop's Lodge in Santa Fe.

Sandia has been active in studies of radiation effects in semiconductors since 1958. In the last few years it has attained international recognition as one of the foremost laboratories in this field of research.

The organizing committee is headed by J. C. King (5210) and F. L. Vook (5211).

Continued From Page One

## ECP Drive Starts

solicitation card to indicate his decision — payroll deduction, check or currency. This change is a natural outgrowth of increasing employee acceptance of fair share giving.

The agencies which use ECP funds have many, many times expressed their gratitude, citing specific cases where the funds made possible the answering of a desperate human need — a wheelchair for a crippled child, therapy for a handicapped individual, care for stranded children, care for orphans, rehabilitation for alcoholics, plus many others.

Research in medical fields continues and major progress is being made. The eight other agencies for the ECP support important medical research on a national scale. ECP contributors know the satisfactions of being part of this.

Members of the ECP committee are H. M. Willis (3130), J. P. Cavanaugh (4131), M. A. Martegane (3242), June Santiago (4135), J. D. McClure (1613), R. K. Vokes (9423), D. M. Fuller (9423), F. A. Leckman (3153), F. S. Eichert (2210), A. N. Chavez (4631), R. L. Wilde (5613), R. S. Nelson (1432), and R. H. Austin (3433).

## Retiring



Ramon Metzger, a member of Labor Support and Grounds Maintenance Division 4575, will retire Friday, Sept. 29. He has worked at Sandia Laboratory for 16 years.

Mr. Metzger has been ill for a few months so the first thing on his retirement agenda is to start feeling better. He is going to rest for awhile and then tackle a few chores around the house. The address is 1710 Atrisco Road SW.

Within a few months, he thinks he will be able to resume his hunting and fishing activities and make plans for traveling.

G. W. Arnold (5211) is one of the committee members.

The agenda includes sessions on theory: electrical properties of defects; channeling and ion implantation; electron paramagnetic resonance, optical, and electrical measurements; defect production mechanisms; new experimental techniques; disordered regions; and recombination effects and discussion of new developments. Conferences of similar scope have been held previously in the U.S., France and Japan.

Papers will be presented by scientists from West Germany, France, Japan, Canada, England, Belgium, and Italy in addition to the U.S. Two scientists from the Ioffe Physico-Technical Institute in Leningrad, USSR, who are particularly active in the field of semiconductors, have been invited to attend the conference. Subject matter to be discussed at the meetings is completely unclassified.

Seven technical papers written by Sandia Laboratory scientists will be presented. They are:

"Production of Defects in n-Type Silicon" and "Characteristics of Electron-Induced Defects in n-Type Silicon" by F. L. Vook and H. J. Stein (both 5211). Mr. Stein will also present a short summary of published work on electrical measurements of neutron irradiated silicon.

"Defect Reordering at Low Temperatures in Gamma Irradiated n-Type Silicon" by B. L. Gregory and C. E. Barnes (both 5212).

"A Survey of Channeling Theories" by D. G. Brice (5211).

"Irradiation Temperature Dependence of Defect Production in Ge" by Ruth E. Whan (5211).

"Partition of Energy of Si and Ge Recoils and Application to Neutron Induced Effects" by A. R. Sattler (5211).

"Effects of Irradiation on the Luminescence of GaAs and Other III-V Compounds" by G. W. Arnold (5211) and G. W. Gobeli (5214).

## Supervisory Appointment



J. ROBERT GARCIA to manager of the newly created Personnel Department 3230, effective October 1.

Bob joined Sandia as a personnel placement analyst in November 1952 and was promoted to personnel investigator in September 1953. In June 1958, he was named to section supervisor of professional placement. He was made division supervisor in personnel research in August 1961 and assumed additional responsibilities for personnel and staff studies two years later. For the past two years, he has been supervisor of Organization and Manpower Planning Division 3133.

Before coming to the Laboratory, Bob was an interviewer and employment specialist with the Employment Security Commission of New Mexico for three years.

He received his BBA degree in personnel from the University of New Mexico in June 1949 and an MBA in industrial management from UNM in June 1961.

Bob is a member of the City of Albuquerque Personnel Board, state Advisory Council for Personnel Administration, Albuquerque Community Council, Family Consultation Board and the national Research on Research Committee. He is also a lecturer on management practices at UNM Community College.

## Sympathy

To J. A. Deveneau (4361) for the death of his father Sept. 6 in Albuquerque.

To William Hahn (4152) for the death of his father Sept. 6 in La Canada, Calif.

To B. H. Finley (2152) for the death of his father-in-law Sept. 6 in Albuquerque.

## Two Apprenticeship Groups Complete Four-Year Shop Training Program

Classes of machinists and electronics apprentices graduated last week to journeyman status after completing requirements of the four-year Sandia Laboratory Apprenticeship Program.

Members of the machinists group, the 11th to graduate since the beginning of the program, are Wade Cunkelman (4253-3), Joe Lucero (4253-3), Herb Pluemer (4254-2), and Andy Myers (4253-2).

The electronics group, the 5th to complete the program, includes Ervin Smith (4231-3), who completed the requirements of the program in June, Billie Huffman (4234-2), Kermit Frye (4231-2), Cliff Condit (4234-1), Robert Gabaldon (4213-4), and Joe Brown (4234-2).

The apprenticeship program was established in March 1958 through the joint efforts of the Metal Trades Council and Sandia Corporation. To date, 44 Sandians have completed the machinist training, which was started first and augmented by the electronics program in March 1960. Twenty Sandians have completed this program. The programs are alike in structure, requiring approximately 8000 hours of training.

## J. R. Townsend Dies, Was Former Director

J. R. Townsend, Sandia Director of Materials and Standards from 1952-57, died Sept. 18 in an Alexandria, Va., hospital.

He started with the Western Electric Company in 1919 and transferred to Bell Telephone Laboratories in 1925. Mr. Townsend was on loan from BTL when he was assigned to Sandia Corporation in 1952. He left Sandia to accept a position in Washington, D. C., as Special Assistant to the Undersecretary of Defense for Research and Engineering (now renamed Director of Defense Research and Engineering).

Upon his resignation from this position in December 1960, Mr. Townsend also retired from the Bell System. However, he continued as a consultant for several organizations.

Survivors include his widow and a son, Peter.

## Events Calendar

Sept. 22—Kiker Memorial Lecture, Sen. Mark O. Hatfield, UNM Concert Hall, 8:15 p.m., free.

Sept. 23-24—San Juan Aspencade. N. M. Mountain Club, leader Don Peterson, tel. 299-4714.

Sept. 29 — William Randolph Lovelace Memorial Lecture. NASA Deputy Administrator R. C. Seamans, Jr., on "Man's Role in Space." UNM Concert Hall, 8 p.m., free.

Sept. 30—San Geronimo Fiesta, Taos Pueblo.

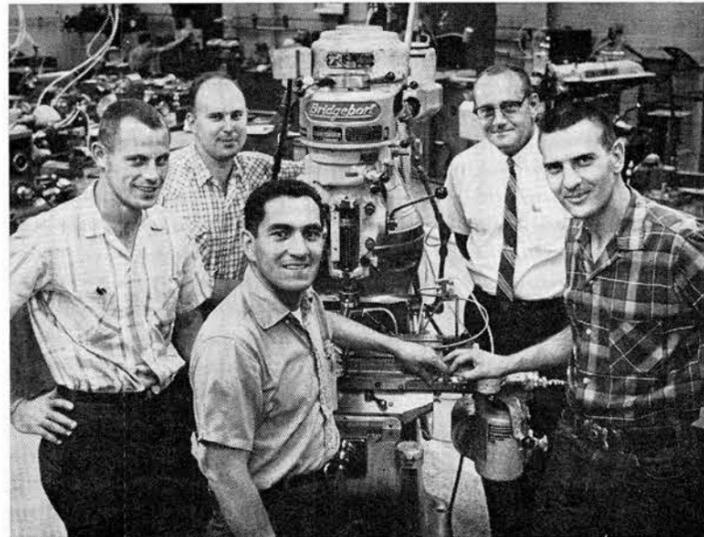
Sept. 30—Colorado Canyon and its maple trees. N. M. Mountain Club, leader A. H. Zachmann, tel. 299-6871.

Oct. 5-8, 12-15—"Serpents and Sentinels" (Shakespearean dialogues between youth and maturity). Old Town Studio, 1208 Rio Grande NW, tel. 242-4602.

Oct. 5—Aspen tour to the Jemez mountains and Los Alamos by YWCA-chartered bus. For reservations, tel. 247-8841.



GRADUATING LAST WEEK after completing four years of apprenticeship training in electronics were (l to r) Billie Huffman (4234-2), Kermit Frye (4231-2), Cliff Condit (4234-1), Ervin Smith (4231-3), Robert L. Gabaldon (4213-4) and Joe Brown (4234-2). At right is J. J. Reck, supervisor of Electronic Apprentice Section.



NEW JOURNEYMEN MACHINISTS finished 8000 hours of apprenticeship training last week. Counter clockwise from top left are Wade Cunkelman (4243-3), Herb Pluemer (4254-2), Joe Lucero (4253-3) and Andy Myers (4243-2). At top right is Cliff Taylor, supervisor of Machine Shop Division 4254.

# Service Awards

## 20 Years



J. M. Bodeaux  
4213



J. R. Harrison  
7336



T. W. Holmes  
8125



P. E. Jockle  
2235



L. L. Motichko  
4221

## 15 Years



C. O. Armstrong  
4212



C. J. Bachmann  
8168



Violet Bernard  
3241



H. G. Brim  
2126



B. A. Clouse  
2525



F. A. Collatz  
2523



L. C. Cordova  
4516



Chenault Davison  
4361



T. R. Glauner  
2213



F. K. Gregory  
4252



J. A. Kenagy  
4224



J. R. Lawrence  
9423



R. E. Maxwell  
8166



T. G. Ogden  
2133



C. S. Padilla  
4614



H. N. Pouliot  
8137



Bonnie Prentice  
1515



D. K. Robbins  
9424



A. A. Ruff  
2435



Frances Savage  
4211



A. G. Schuknecht  
8115



J. W. Sims  
2223



R. P. Tyler  
4113

# Welcome . . . Newcomers

Aug. 21-Sept. 15

<b>Albuquerque</b>	Joseph A. Baca	4254
	*Virginia O. Chavez	3154
	Robert R. Fortin	4233
	Frederick J. Gunckel	4254
	Charles W. Healer	4254
	Forrest B. James, Jr.	4254
	*Mary R. Jaramillo	3154
	Carolyn R. Jones	9412
	Gary D. Jones	4233
	Ted V. Montoya	4233
	David A. Powers	3126
	Della Reinhardt	4233
	Kenneth L. Ronquillo	4254
	Daniel L. Rosales	4254
	Jerry L. Silva	4233
	Vidal Varela, Jr.	4233
	Eddie J. Vigil	4574
	Mattie B. Wadley	4574
	Frank R. Whiston	4254
	*Phyllis M. White	3126
<b>Arkansas</b>	James R. Price, Fayetteville	9223
<b>California</b>	*Joseph E. Curzi, San Jose	2212
	John H. Spitzer, Fremont	9415
<b>Colorado</b>	Stephen A. Ross, Alamosa	4382
<b>Illinois</b>	Gary S. Snow, Champaign	1123
	Mathias Sagartz, Chicago	1541
<b>Indiana</b>	Joel Sweet, Gary	5636
<b>Iowa</b>	L. Roger Edwards, Ames	5131
	*Richard C. O'Boyle, Iowa City	2213
<b>Kansas</b>	Derek A. Snyder, Wichita	5633
	Ronald D. Halbgewachs, Lawrence	9422
<b>Maryland</b>	Benjamin J. Roscoe, Baltimore	5253
<b>Michigan</b>	Melvin D. Olman, East Lansing	5142
<b>Nebraska</b>	Stewart L. Fluent, Lincoln	7342
<b>New Mexico</b>	Timothy G. Taylor, Las Cruces	9234
<b>Pennsylvania</b>	William C. Ryan, Trevese	4224
<b>Texas</b>	Gerald W. Barr, Austin	1142
	**Gordon T. Stewart, Jr., Littlefield	5141
	*Charles A. Nelson, Garland	7255
	Harold C. Walling, Beaumont	7342
<b>Wisconsin</b>	Roger J. Chaffin, Madison	1423

# ECP Members Give \$198,777 to Agencies

With three months remaining in this year's pledge period, donations by Sandians to the Employees Contribution Plan amount to \$198,777. As the August checks — totaling \$21,598 — were mailed to the United Community Fund and eight other agencies, the following distribution had been made:

	Year-to-Date
United Community Fund	\$163,105*
American Cancer Society	9,993
Bernalillo County Heart Assn.	6,957
Arthritis Foundation	3,399
Crippled Children	5,972
Multiple Sclerosis	2,805
Cerebral Palsy	1,984
Muscular Dystrophy	2,380
Cystic Fibrosis	1,190
Reserve Fund	992

\* This total includes the cash contribution and specific donations made at the beginning of the year's ECP drive.



C. A. Weaver



T. M. Oppelt

# Deaths

Charles A. (Buck) Weaver, supervisor of Emergency Planning Division 3245, died Sept. 11 after an illness. He was 61.

He had been a member of Sandia's Security organization since May 1948.

Survivors include his widow, a daughter, a son and five grandchildren.

Thomas M. Oppelt, a draftsman in Design Definition Division B 2212, died Sept. 16 after an illness. He was 53.

He had worked at Sandia Laboratory since October 1955.

He is survived by his widow.

## 10 Years

Sept. 22 - Oct. 5

Margaret D. Koerner 1343, Reba K. Garrison 3126, J. B. Kilmartin 4213, H. T. Gower 4518, R. H. Plumlee 5143, J. N. Barnhouse 8226, J. V. Williams 9321, B. W. Lindsay 5256, L. D. Tichenor 4224, Opal D. Noel 2434, G. J. Lovato 4231, R. W. Williams 4372, H. M. Bivens 1411, and B. E. Barker 8114.

## SHOPPING CENTER

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

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

## FOR SALE CARS & TRUCKS

- '67 CHEVROLET Bel Air, 3-seat station wagon, AC, PS, PB, AT, 327 engine, 6500 miles, \$3100. Hart, 299-8832.
- '58 MERCURY Montclair, 383 engine. Darrah, 877-0790.
- '62 STUDEBAKER Hawk, rebuilt engine. 4-speed, AC, Harris, 603A San Pedro SE, 265-0886.
- '55 CHEVROLET 4-dr., twin 4 barrels, Corvette cam, 283 engine, twin pipes, stick shift, \$350; '53 Cadillac convertible, wire wheels, \$550. Reed, 299-7425.
- '55 CHEVROLET 210, 2-dr., 6-cyl., new brakes. Berg, 299-7334.
- '61 RAMBLER wagon, one owner. Long, 268-8429 or 256-1683.
- '55 PONTIAC Chieftain, V-8, R&H, PS, PB, AT, \$150. Roeschke, 282-3234.
- '61 RAMBLER Classic Super sedan, white, 4-dr., 6-cyl., stick shift, one owner, \$595. Matlack, 256-7371.
- '61 CHEVROLET 2-dr. Biscayne, R&H, standard transmission, w/w tires, new carburetor, muffler, \$575. Johnson, 255-2846 after 5:30.
- '65 KARMANN GHIA, R&H, AC, \$1625. Caine, 268-5250 after 5.
- '61 GMC 4-wd. pickup, \$950; '66 Travel Queen 8 1/2' camper, \$1395. Sell separate or together. Blaine, 299-1036.
- '59 FORD pickup, R&H, \$350. Gabaldon, 255-8274 evenings or weekends.
- '63 VOLKSWAGEN sedan w/luggage rack and 2 adult and 2 child seatbelts, \$589 cash. MacCallum, 898-1657.
- '59 MERCURY Parklane, 4-dr. HT, PS, PB, \$400. Tomlinson, 344-6882.
- '66 VW sedan, radio, w/w tires, gravel guards, \$1395. White, 298-3630.
- '60 STUDEBAKER Lark, 2-dr., V-8 engine, std. transmission, \$240 or best offer. Duvall, 299-8744.
- '55 JEEP station wagon, 4-wd, new paint, upholstery, hubs, \$625. Martin, 299-1748.
- '55 CHEVROLET, V-8, R&H, PB, new seatcovers, engine needs work, \$250 or offer. Winter, 344-4456.
- '62 DODGE Lancer, \$675. Zimmerman, 296-1058.
- '60 CHEVROLET Biscayne, 6-cyl., standard, R&H, \$395. Chaves, 255-6155.
- '56 DODGE V-8, R&H, AT, PS, new tires, battery, radiator, best offer. Carlson, 299-7253.
- '59 CHEVROLET wagon, 9-pass., new battery, seatcovers, 283 V-8, AT, PS, \$400. Rebarchik, 299-1385.
- '55 DESOTO 4-dr., many extras including complete service manual, \$100. Moody, 282-3466.

- '49 CHEVROLET pickup w/1956 6-cyl. engine and 12 volt electrical system, \$195; 1964 Honda 150, \$250. McGinnis, 898-3170.
- '61 TR-3 roadster, R&H, removable steel hardtop, tonneau cover, luggage rack, \$200 below book price. Lucky, 298-9914.

**REAL ESTATE**

3-BDR. HOUSE, completely enclosed backyard, forced air heat, reasonably priced, Southwest area. Mora, 842-9736.

MOUNTAIN LOT 100 yards from Deer Lake east of Cuba on 126. Springwater, electricity, 8000' elevation, aspen, pines, \$2200. Selva, 264-8153, or P.O. Box 24, Livermore, Calif.

ADobe, expansive, unique, northwest, just off Rio Grande Blvd., \$33,500. Buss, 298-1589.

3-BDR. Roberson, LR, DR, den, 1 1/4 baths, newly carpeted throughout, AC, large patio, near schools, shopping. Nelson, 298-9231.

2-BDR. on large lot w/ref. and stove, AC, w/d hookup, carpeted. Russo, 255-4092 after 3:30.

BRICK 3-bdr., 1 1/4 baths, AC, fully carpeted, large yard, covered patio, fruit trees, Annunciation parish, immediate possession. Seligman, 298-1993.

1 1/2 ACRES North Valley land, \$600 down, take over payments. Sweley, 298-6694.

3-BDR., 1 1/4 baths, FR, carpeting, AC, covered patio, walled yard, close to Base, shopping, and schools. Eisdor, 298-1990 after 5.

MOSSMAN hipped roof 3-bdr. w/tp. hwf, cfa, below appraisal, asking \$13,000. Eakes, 2024 Palomas Dr. NE, 268-9050.

3- or 4-BDR., garage, covered patio, carpeting, 224 Gen. Marshall NE, \$91/month includes taxes, all insurance, mortgage, \$300 down. Johnson, 298-8514.

3-BDR., 3 baths, 3 fireplaces, 2300 sq. ft., 4 1/2 percent loan, carpeting, isolated study, will lease, 4212 Sunningdale NE. Gillespie, 255-6421.

4-ROOM cabin on 1+ acres, walnut-ivory paneling, 1/4" vinyl in LR and kitchen, 220 wiring, \$6600, Deer Lake Estates near Cuba. Holmes, 255-4722.

GLENWOOD HILLS custom brick, parking for camper, unfinished basement, trade your equity as down. Smith, 296-1049.

SALE or rent home near Los Altos grant, immediate occupancy, 3-bdr., den, 2 fireplaces, 1016 Field Dr. Maciolek, 299-1696.

MOSSMAN, 3-bdr., den, 1 1/4 baths, AC, carpet, hw floors, double garage, patio, sprinklers, walking distance schools, 5 1/4% FHA loan or refinance. Allen, 256-3234.

**MISCELLANEOUS**

WESTERN saddle, Hereford brand, year old, \$65. Sherwin, 344-1911.

8-INCH I beams and 4" angle iron, random lengths. Houghton, 299-3386.

ROLLAWAY bed, \$10; apt. Hoover w/attachments, \$25; Volkswagen wheel and tire, \$5; 2-piece loveseat, needs upholstery, \$25. Crompton, 299-5569.

WINCHESTER, 3" Magnum, 12 gauge Model 12 w/ventilated polychoke, \$90; Remington Model 31, 16 gauge pump, \$50. Beasley, 268-7386.

AMPLIFIER, Scott 260 solid state integrated, new \$259.95, take \$185 or best offer. Boyes, 255-7170 after 5.

WHITE canopy twin bed complete w/blue top and bedspread, \$70; baby bathnet, \$9; detachable buggy, \$8. Broome, 244-9675.

BLACK 100% cashmere coat, size 12, cost \$150 will take \$40. Cronin, 298-8871.

GO-CART, heavy duty frame, Wesbend 2-cycle engine, up to 40mph, centrifugal clutch; aluminum screen for 1' x 3'. Chandler, 296-3323.

10 HEAD of quality Appaloosa's, breeding and show stock as low as \$200. Harker, 282-3435.

- TWO 7.50x14 snow tires, \$10 each; bird cage, \$3; Ward's two-burner camp stove, \$10. Langston, 268-6933.
- RIFLE .22 single shot, auto. safety. Montgomery Ward model, less than 30 rounds fired, \$12. Weber, 344-5183.
- TWIN SIZE Hollywood bed, \$10; lady's beige buckle ski boots, size 6 1/2 narrow, \$15. Miller, 265-0029.
- PRACTICE piano, upright. Cox, 299-5855.
- RIFLE, Winchester 1873 44-40, \$35; muzzle loading shotgun, \$35; coin collection. Zaluga, 344-1564.
- 3 ETHAN ALLEN maple bar stools, captain style w/swivel seat, \$20 each. Carlson, 299-9096.
- 21" MOTOROLA TV, Emerson stereo, \$25 each. Cash, 242-3721.
- COMBO TV-phono-radio, Magnavox, blond cabinet w/doors. Make offer. Kidd, 256-1020.
- HOTPOINT electric range, \$35. White, 299-6411.
- EXTENSION speaker system, Realistic Minimus-1 w/lugs, jacks, 30' cable, walnut cabinet, max. 25 watts, 40-20,000 cps. Galt, 298-0548 after 4.
- VIOLIN, full size w/case, music stand and school orchestra books, \$50. York, 255-3097.
- DARK DRESS suit, fits 6 ft. 160 lb. boy, \$10; stereo record player, portable, detachable speakers, \$25. Tucker, 247-9443.
- '66 BSA motorcycle, 650cc, low mileage, \$300 and take over payments. Emig, 298-2193 after 5:30.
- EARLY AMERICAN matching divan and chair, brown tweed, \$100. Horn, 268-1054.
- TRAVEL trailer, 13 ft. Santa Fe Cub, 1964 model. Day, 256-6360.
- BICYCLE, 26", cleaned and oiled, \$15. Schuch, 298-9924.
- ENLARGER, SunRay, 2 1/4 x 3/4, F6.3, Illex lens, diffusion type, \$35. Meikle, 299-4640.
- BOY'S 10-speed English racer bike, \$25; trundle-beds, blond oak, 2 frames, springs, mattresses, \$20. Watterberg, 299-8517.
- CRIB and mattress, \$15. Apodaca, 296-4994.
- SIZE German-made violin w/case, stand and books, \$50. Deterie, 299-1868 after 5.
- AIR FORCE blouse jacket 41R, overcoat, trousers, \$50; girl's-boy's 24" bicycles, \$20-\$25; 26" frames, parts \$5-\$10. Foster, 299-6240.
- B-FLAT G. Tenzel clarinet. Corlis, 344-1137.
- STAUFFER "Posture Rest" reducing couch w/book of instructions. Swayze, 268-5222.
- VIOLIN for elementary or junior high student, \$75. Fuller, 264-3341 at noon only.
- ALTO SAX, Conn., \$75. Hole, 255-1444.
- AKC TOY poodle puppies, 6 weeks old, silver male \$50, champagne beige male \$75. Cotter, 299-2296.
- BABY BED, \$15; playpen, \$5; disassembled Milton player piano, price to be negotiated. Chacon, 296-1631.
- CLARINET, Schreiber & Sohne. Cook, 2225 Glorieta St. NE, 299-7509.
- STRING BASS w/bow and cover, \$200. Ray, 299-1253.
- 30-06 MATCH ammo, 9 cents each; 1/2 hp Johnson outboard, \$35; stereo tuner-amp, 50 w/channel, 2 walnut AR-2X speakers. Brammer, 296-3652.
- BOY'S 26" Schwinn bicycle, knobby tires, thornproof tubes, \$20; motorcycle helmet, size 7. Fullcut with bubble mask, safety approved, \$25. Heidrich, 344-7669.
- DEER HUNTERS special, 30-06 03A3 Springfield rifle, \$40, four groove. Frasier, 299-6933.
- BOOKCASE: coffee table; clarinet; other household items. Sykes, 296-4545.

- '64 14 1/2' Fireball trailer, self-contained without shower, sleeps 4 to 6, \$900. McCampbell, 282-3966 after Sept. 26.
- ENGINE, 6-cyl. 1960 Ford 223, complete with radiator, \$116 or trade for guns, cameras, stereo, camper. Neeley, 344-2513.
- ROTH 3/4 violin and case, Caspari pegs, \$75. Smith, 256-0375.
- BROWNING superposed O&U skeet & skeet, grade I, \$325. Rehner, 344-8680.
- SHOTGUN, 12 gauge double barrel, side x side, Stevens, recoil pad, \$60. Stewart, 298-0439.
- FRIGIDAIRE refrigerator, \$40. Massey, 298-1468.
- '59 FORD AM radio; 1957 Chevrolet starter; 8:50x14 w/w tire. Smith, 877-9399.
- WINCHESTER 22, model 69, Lyman adjustable sight, hooded front sight with inserts, includes case, \$40. Hughes, 299-1533.
- BICYCLES: girl's English 26", \$20 and boy's 24" \$15. Durant, 298-4952.
- WALNUT bedroom suite; double bed, seven drawer vanity w/large mirror and bench, chest w/five large drawers. Shieler, 344-8617.
- .351 WIN. S. L. 177 gr. MC bullet, box 50. Juskievicz, 256-7519.
- BICYCLE, Girl's 20", \$15. Forsman, 299-5570.
- SNARE DRUM, student, \$35. Gross, 255-7327.
- SEAR'S grease gun w/flexible hose and 9 grease cartridges, \$8; baby stroller, \$8; boy's 26" bike, \$10. Reinman, 256-9737.
- CAMERA, Zeiss-Ikon Contaflex SLR, F2.8 45mm lens, case, flash, haze filter, cable release, close-up lens, \$55. Cuderman, 299-6746.
- VIOLINS, full and 3/4 size, \$85 and \$50. Cope-land, 344-1133.
- 8x20 Travel trailer, self-contained, has furnace, gas refrigerator, water heater, storage, sleeps 4, \$1350. Summer, 299-1912.
- COOK STOVE, 2-hole, wood-coal, white porcelain box, ideal for a cabin. Jones, 298-3891.
- VIOLIN, full size, case, new bow and music stand, \$60. Adams, 268-5943.
- WOODEN DOOR, 36"x68"x1 3/4", has been painted and hung, no dents or scratches, \$5. Coleman, 299-2377.
- FROSTLESS refrigerator-freezer, Sears, 13.6 cu. ft. incl. 155 lb. freezer, \$160; lamps; baby crib; stroller. Meyer, 488-4825.
- BUFFET B-flat clarinet w/case, \$75. Coleman, 299-8321.
- LABRADOR retriever puppies, 9 weeks old, male \$75, female \$65. Bertholomey, 298-1940.
- CHILDREN'S bunk bed set w/mattresses, \$45; additional matching pieces, \$20 each. Miller, 282-3485.
- GOLF CART and deluxe golf bag w/hood, both \$30. Bauer, 255-7774.
- REFRIGERATOR, Sear's deluxe, double oven, broiler, automatic burners, timer, clock, other gadgets. Cover, 268-0921.
- GAS DRYER; floor buffer; swivel rocking chair. Daniel, 298-4213.
- 50cc HONDA Sportcycle, low mileage, \$125. Lowe, 11404 Bellamah NE, 299-7725.
- HOTPOINT electric surface unit for built-in, 4-burner, push-button control, \$25; large birdcage w/wrought iron legs, cover, \$10. Harper, 298-0146 after 6.
- CAMPER, sleeps 2, \$275; coil spring, single bed, \$5. Jaramillo, 299-3441.
- HALF PRICE: Rival cordless knife; transistor radio; toy truck/banks; 5x7 pup tent. Mitcham, 299-8425.
- CLARINET, Bundy w/carrying case, deluxe music stand w/case, \$50. Mancuso, 299-5252.
- SPEED QUEEN electric washer, motor needs repair. McCampbell, 268-8062 after 5.

- J. C. HIGGINS Model 21, pump, 20 gauge, ribbed barrel, 5 pos. choke, kick pad w/2 boxes 3" mag. shells, \$45. Strawderman, 299-7548.
- CARTOP carrier, 36" x 36", collapsible metal frame, suction cup type w/canvas cover, \$7.50. Stevens, 299-6086.
- TRUMPET, King Liberty, case, mute, professional model for student, \$87. Tiefa, 299-2763.
- '67 NORGE electric range, 36", cost \$269.95, sell for \$175; maple crib, springs, mattress, \$10. Palmer, 299-4722.
- 8' PICKUP camper, 1967 Holiday, sleeps 4, cost \$1150, sell for \$800. Horton, 268-1869.
- CORNET horn, Beaufort American, silver, professional quality, \$60 or best offer. Vath, 299-1448.

**WANTED**

RIDER in car pool, vicinity of Martha and Indian School Road NE. Mathes, 299-6785.

CHILD CARE, my home, weekdays, prefer ages 2-4, San Pedro and Candelaria area. McLaughlin, 255-9685.

EL VADO lake front property. Rolleiflex camera. Butler, 299-5626.

TRIM SAW suitable for cutting ceramic or quarry tile. Harvey, 256-2666.

CARPPOOL drivers around Girard or Carlisle and Lomas. Perea, 720 Amherst NE, 265-0861.

RIDE in carpool from vicinity of Lomas and Girard. Halbgewachs, 268-1584.

GOOD, used playhouse for small girl and used slide for swing set. Everett, 636-2544.

DOG HOUSE for basket hound. Hole, 255-1444.

S&W .22 kit gun. Roth, 877-4997.

HALLICRAFTERS R-48 speaker, will pay good price. Want

## Coronado Club Activities

### Theater Night Set Tomorrow at Club

"Showstoppers and Stuff," excerpts from a forthcoming production by the Albuquerque Light Opera Company, will be presented at the Coronado Club tomorrow night. The event, billed as "Theater Night," will feature musical numbers from Broadway musical comedies plus a social hour, buffet and dancing.

Social hour starts (at special prices) at 6 p.m., the buffet (braised tenderloin tips) will be served from 7 to 8 p.m., "Showstoppers" will be presented at 8:15, and



FEATURED SINGERS of the "Showstoppers and Stuff" Theater Night at the Coronado Club tomorrow night will be (l to r) E. E. Ives (8159), Ginny Clifton, and Sally Harrington, Albuquerque Light Opera Company.

dancing starts after the show. Don Lesman's big band will play.

Cost to members is \$2.75, guests \$3.25. Pick up your tickets at the Club office by 9 p.m. tonight.

#### Social Hours

Tonight the buffet will feature Virginia baked ham. The Rhythm Masters will play for dancing. The buffet costs \$1.75 for adults, \$1.50 for kids. Pat Reich and piano will entertain in the main lounge.

On Friday, Sept. 29, Italian food will make the buffet something special. Club Manager Hubert Pée has a great recipe for Italian stew. Bud Fischer will be on the bandstand and Pat Reich in the main lounge. The buffet costs \$1.60 for adults, \$1.30 for kids.

Tommy Kelly and his swinging trio return to social hour Friday, Oct. 6. The seafood buffet will be served at \$1.25 for adults, \$1 for kids.

#### Teenage Go-Go

Anthropologists will dig this one — "The Missing Links" will make the sound for the Teenage Go-Go Saturday, Sept. 30. The evolutionary experience starts at 7:30 p.m., ends at 10:30 p.m. Member parents must pick up tickets (members 25 cents, guests 50 cents) by 5 p.m. Sept. 30.

#### Swim Tickets

It's not too late. If you join the Coronado Club before the end of September and keep continuous membership until next summer, you can qualify for the continuous member season swim ticket. This costs \$5 per family compared to \$28 for the standard season swim ticket. Join now.

## Modification Projects Planned For Coronado Club Building

The Coronado Club will undergo a number of modifications and renovations during September, October and November. Included in the plans are a new kitchen addition, installation of new serving equipment in the dining area and replacement of the ballroom hardwood floor.

During the final construction, the Club will be closed from about Nov. 13 through Nov. 22. The construction projects will not affect cafeteria service in either Bldg. 839 or Area III. Szabo Food Service, Inc., Coronado Club concessionaire, will continue food service at both cafeterias. Luncheon service at the Coronado Club will be discontinued only during the time that the Club is closed.

When the modifications are complete, luncheon service will be better than ever. Installation of new serving line equipment will speed the service. Two lines will be in operation. Diners may enter the area

## Sandia Sharpshooters Win Region 6 NIRA Rifle, Pistol Matches

Three teams of Sandia Laboratory sharpshooters swept the recent Region Six pistol and rifle competitions sponsored by the National Industrial Recreation Association and the National Rifle Association. The Sandia teams took first in .22 rifle, .22 pistol, and CO<sub>2</sub> pistol matches.

Region Six includes New Mexico, Colorado, Kansas, Missouri, Oklahoma, Arkansas, Texas, Louisiana and Mexico. The shooting was held on Sandia Base ranges and the targets mailed to contest headquarters for scoring.

Members of the rifle team were Hank Cranston (2213), Buzz Milton (1133), Dave Overmier (7222), and Ernie Graves (7332).

The pistol team, competing with .22 and CO<sub>2</sub> pistols, were Bob Davis (2212), Ray Mosteller (7132), Jim Griffing (7333), and Dick Vivian (1611).

The sharpshooters are active throughout the year in the Sandia Laboratory recreation program. Employees wishing to participate should call Dick Vivian, 264-3759 for additional information.

through two entrances and use one of four exits from the serving area.

Construction on the kitchen addition started about Sept. 13. The 16- x 48-foot addition will permit installation of new food preparation and dishwashing equipment. It will also provide a permanent snack bar for the patio area.

The Club will be back in operation, much improved, for the holiday season. The ballroom and lounge will be open about Thanksgiving, and luncheons will be served in the ballroom area. Work on the dining room will be complete Dec. 10.

## New Mexico Academy of Science Honors Sandia Director of Research

The sixth annual New Mexico Academy of Science award will be presented to R. S. Claassen, director of Physical Research 5100, during the society's annual banquet Sept. 29 in Albuquerque.

This is the first time that a Sandian has received this recognition. Other recipients have included E. J. Workman, W. R. Lovelace II, N. E. Bradbury, Lora Magnum Shields and J. L. Riebsomer. Nominations are made from general membership of the Academy and a committee appointed by the Academy President makes the selection.

Mr. Claassen will be honored for his many contributions to the New Mexico scientific community. He was chairman of the National Science Seminar Series held here in 1963 and, while serving as 1965-66 chairman of the Rocky Mountain Science Council, he arranged the ARMU-Sandia-Lovelace Technical Orientation Conference. His support of major cooperative research programs, such as the "Sporadic E Layer" program for upper atmospheric research and the "Extra-terrestrial Ecosystem Study" program, have

PAGE EIGHT

SEPTEMBER 22, 1967

SANDIA LAB NEWS



INDUSTRIAL "SPINOFF" from Sandia's science and technology is of interest to the AEC's Office of Industrial Cooperation (OIC). E. J. Brunenkant (right), director of Technical Information, AEC, Washington, D.C., was briefed on recent Sandia developments last week by E. N. Leslie, 1322, (left). M. K. Linn, 3400, (center) is a member of the AEC's Technical Information Panel. Sandia's OIC activities are coordinated by a special task group in Technical Information Department 3410.

## Take Note

Albuquerque Civic Chorus is enrolling new members until Oct. 3, according to Douglass C. Smathers (9227) the incoming president. The Chorus practices every Tuesday from 7:30 to 9:30 p.m. at Monte Vista Elementary School, 3211 Monte Vista Blvd., NE. Co-sponsored by the Albuquerque Public Schools and the city Parks and Recreation Administration, the group currently has about 50 voices.

The four major concerts planned for this year include one in November, another for Christmas, a children's concert in March and an outdoor concert at Coronado Shopping Center in May. Special concerts are also presented to individual groups at the Hospitality House, Los Lunas Hospital and Training School and Retarded Child-

rens' Center. Other Sandians in the Albuquerque Civic Chorus include H. J. Brewster (3244), A. R. Eiffert (4210), B. A. Caskey (1541) and J. R. Dillard (4623).

Eight Sandians will participate in the Society for the Preservation and Encouragement of Barber Shop Quartet Singing in America's Division One of the Southwest District competition for choruses and quartets Sept. 30 at University of New Mexico Concert Hall. The three winners in each group will represent the division at November's district meet in Dallas. The Sandians singing with three different local quartets are C. E. Jackson (1515), R. A. Harley (1541), G. S. Wallace (4214) and L. J. Seligman (9215). Sandians in the Albuquerque Chapter basic chorus include L. A. Faw (2223), B. W. Jolliffe (2122), R. E. Arvidson (2111) and H. Moore (1631).

Winners of the competition along with the Albuquerque Chapter chorus and the current district championship quartet from San Antonio will sing during a special public performance that evening at Concert Hall. Tickets will be available from members of SPEBSQSA or at the box office starting tomorrow.

Twenty representatives of test ranges throughout the nation met this week at Sandia Laboratory to discuss missile flight safety practices. Arrangements for the meeting were handled by C. M. Vick (9425).

Members of the Inter-Range Missile Flight Safety Group also toured environmental testing facilities in Area III.

## Attention, Retirees

A get-together for Sandia Corporation and Bell System retired employees is planned for Thursday, Sept. 28, starting at 6:30 p.m. at the Coronado Club.

In addition to the opportunity to renew acquaintanceships, representatives of Employee Benefits Division 3122 will be on hand to answer questions regarding Company benefits. Reservations can still be made by calling Margaret Platt, tel. 264-1177.

Retirees with mailing addresses in California will be invited to a similar meeting to be held in the Livermore area next month.



R. S. Claassen

strengthened the relations between universities and industry.

At Sandia, Mr. Claassen's activities include establishing a sound program of basic research in the physical sciences, conducting his own research in solid state physics, establishing the Joint University of New Mexico-Sandia Colloquium program, and supervising the Sandia Research Colloquium Committee. He is a member of the honorary editorial board of SOLID-STATE ELECTRONICS, a member of Solid State Sciences Panel of the National Academy of Sciences, and treasurer of the Bernalillo County Planned Parenthood Association.

## Sandia Safety Signals

### Accident Costs

Wage loss, medical expense and administrative and claim settlement costs of insurance for work accidents in the U. S. during 1966 amounted to about \$2,900,000,000.

### Medic Alert

Many individuals who have health problems or are allergic to certain medicines, wear a bracelet or a necklace with a tag reading "Medic Alert." Look for this tag when you aid someone in need of medical treatment. Read instructions on the back of the tag.

### Every Second Counts

If you sustain a chemical burn in the eye, 60 to 90 seconds may be the difference between blindness and momentary discomfort. The treatment is simple. Dilute the chemical in the eye with water as quickly as possible, then seek medical care.