



# NUCLEAR DIVISION NEWS

A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 5 - No. 20

October 17, 1974

## QUESTION BOX

If you have questions on company policies, benefits, etc. or any other problems with which we might help, just let us know. Drop your inquiry to the Editor, Nuclear Division News. (Or telephone it in to your plant news representative.) You may or may not sign your name. It will not be used in the paper.

Questions are referred to the proper authorities for accurate answers. Each query is given serious consideration for publication.

Answers may be given to employees personally if they so desire.

**QUESTION:** Is contributing to a political party or to a candidate by a Union Carbide Nuclear Division employee in violation of the Hatch Act?

**ANSWER:** The original act, called the Hatch Political Activity Act, was passed into law in 1939. It has been subsequently amended several times, and forbids certain political activity by employees of the Federal Government.

Because we are employees of Union Carbide and not employees of the government, we are not banned from political activity by the Hatch Act.

It is Union Carbide policy to encourage employees to support and participate in public affairs and in the activities of legitimate political parties to the extent and under such circumstances that such participation does not interfere with the conduct of business. This would involve employees, to the extent they desire, contributing their time, talents and money to the party and-or candidates of their choice.

**QUESTION:** Why do we not go back to the old safety award program (in lieu of the lottery Bond thing we have now) so that every employee is a winner?

**ANSWER:** A number of suggestions have been made for modifying the current Safety Incentive Plan. In several of the comments received, the Drawing Fund Awards section of the Plan has been criticized. It is not included in the Plan now under consideration for 1975. We are all winners so long as we do not have any accidents!

**QUESTION:** Now is the time for these poor men to stand up against discrimination! There has been an overlooked policy in favor of women ever since I have been here and I'm sure long before I came. There are strict regulations concerning sleeping

on the job at Y-12. Why then can women stroll to their specially built bathrooms, complete with end tables, bulging with "Ladies Home Journal", "Better Homes and Gardens", "Viva", and the SOFA, and either read magazines, or catch a few zzzz's for a while? How about getting started on a project to recover men's bathrooms from the doldrums of medieval times and placing some furniture, "Sports Illustrated", "Penthouse", "Field and Stream", "National Lampoon", etc., in our bathrooms.

**ANSWER:** As we all know, there are many changes taking place in our ways of doing things. We like to think that each change will be for the better.

Until recently, the Company has been required by Federal Statute and Regulations, covering most of our operations, to provide for "retiring rooms for women" to be used for "rest and emergencies." At least one couch or bed was required in every place where more than 10 women were employed, with additional beds to be provided for each increment of 250 additional women employees. With changes in the regulations resulting from statutory changes, the requirement for retiring rooms was dropped. We are presently considering the effect of the changed regulations in our future arrangements.

Employees (men and women alike) are permitted reasonable time away from the job to use the restroom but not to sleep or read magazines.

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## Lewin Keller named director of ORNL's chemistry division

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O. Lewin Keller Jr., has been appointed Director of the Chemistry Division at Oak Ridge National Laboratory. The appointment, effective October 14, was announced by Herman Postma, ORNL Director.

Keller succeeds Ellison H. Taylor, who has served as Director of the Chemistry Division since 1954. Taylor will now devote his full time to research.

Keller was previously director of the Chemistry Division's transuranium research laboratory. He was born in New York but grew up in Atlanta, Ga. Keller received the B.S. degree in chemistry from the University of the South in Sewanee, Tenn., and the Ph.D. in chemistry from Massachusetts Institute of Technology. He also did biochemical work as a post-doctoral fellow at M.I.T. and during his service at the Army Chemical Center.



O. Lewin Keller Jr.

### Transuranium studies

He joined the ORNL staff in 1960. His research interests have centered on the chemistry of the transuranium elements, including those that are produced only a few atoms at a time

## \$36 million toll enrichment fees in 3rd quarter

More than \$36 million in toll enrichment sales were recorded at the Oak Ridge Gaseous Diffusion Plant during the third quarter of 1974, bringing sales for the year to date to over \$83 million. This represents an increase of \$8 million over sales for the same period in 1973.

During the third quarter of the year, almost 580,000 pounds of enriched uranium were shipped for use in Japan, South Korea and Spain and in the following states: Florida, Illinois, Nebraska, New Jersey, New York, Pennsylvania and Wisconsin.

Under the Toll Enrichment Program, privately-licensed owners bring their uranium to a gaseous diffusion plant for enrichment on a toll basis. Customers are charged for the services required to separate from natural uranium the desired percentage of the uranium-235 isotope, usually between two and three percent.

by accelerators. Keller has applied Raman, infrared and fluorescence spectroscopy, solvent extraction and ion exchange, electron microscopy and x-ray diffraction to various chemical studies with heavy actinides produced in the High Flux Isotope Reactor and the Transplutonium Processing Plant. Recently, he has become interested in the possible existence of super-heavy elements predicted to exist in islands of stability around atomic numbers 114 and 126. He has made careful predictions of the properties to be expected of these elements as an aid to their discovery.

Keller has served the American Chemical Society, the National Academy of Sciences and the Atomic Energy Commission in various official capacities. He is currently a member of the AEC's Transplutonium Program Committee and Transuranium Technical Group. He is also a member of the executive committee of the Nuclear Chemistry and Technology Division of ACS.

Keller and his wife, Dona, reside at 101 Morgan Road, Oak Ridge. They have four children.

### VOTE-VOTE-VOTE-VOTE-VOTE

One man-one vote. Often elections are decided by razor-thin majorities. Exercise your Constitutional right November 5. Vote for the man of your choice. The life of your country is dependent on how much you support its systems.

# UCC employees' crafts to be featured in Guild's sale

Many Nuclear Division employees will be participating in the Foothills Craft Guild show and sale soon. The president of the Guild, ORNL's Ron Senn, has stated that the response from previous sales was so great that the sale will be for three days this year. It will be held at the Civic Center in Oak Ridge November 1, 2 and 3. Hours of the sale will be from 10 a.m. to 9 p.m. Friday, November 1; from 10 a.m. to 6 p.m., Saturday, November 2; and from 1 to 6 p.m., Sunday, November 3.

Foothills Craft Guild now has a membership of nearly 100 active Tennessee craftsmen, plus associate members. Many of them will be at the fall event, offering for sale a wide selection of handcrafted items - jewelry, pottery, metal sculpture, woodwork of all types, textile and fiber creations, candles, note papers, toys, ornaments, arrangements of dried natural materials, and more. The Guild has accepted more than a dozen new members in the past year

who will be showing their crafts for the first time. These will include dried flower pictures, forged silver, jewelry, needleweaving, macrame, wood inlay and many other items.

The Guild has grown in eight years from an initial membership of 25 Oak Ridge and Knoxville craftsmen to its present membership, including members throughout the state. Its annual fall show and sale has become one of the major pre-Christmas events of the Southeast. Over 10,000 people attended the sale last year, coming from as far as Florida and North Dakota, as well as the surrounding area.

Chartered as a non-profit, educational organization, the Guild uses proceeds from the sale to support a number of community activities, including the Oak Ridge Arts Council, the high school craft show, and scholarships for study in the arts and crafts field.

Membership in the Guild is open to any active craftsman who is a  
(Continued on page 8)



ANCIENT ART — ORNL's Bill Henry displays one of his interesting wood carvings. His work, along with many others from the Nuclear Division will be featured at the big show and sale, November 1, 2 and 3.

## NUCLEAR DIVISION NEWS



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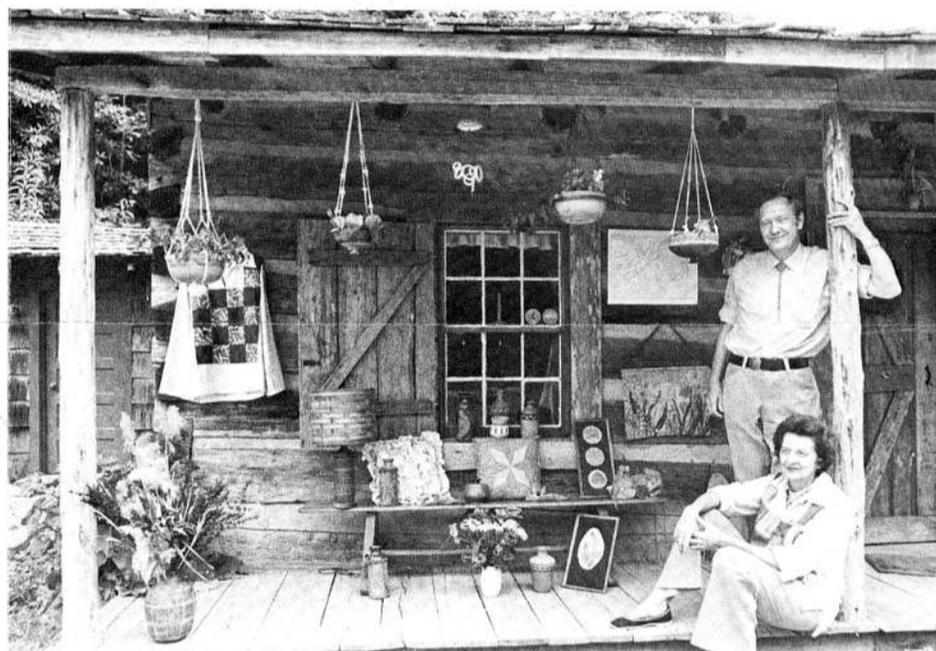
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GUEST ARTIST — James Brashier, ORNL's Plant and Equipment Division, will be a guest artist at the Foothills Craft Guild show November 1, 2, and 3. His miniature stagecoaches will be featured.



APPALACHIAN MEMORABILIA — Margaret and Sam Thompson are seen outside their Gatlinburg shop, where their fine crafts are offered for sale. Thompson, who is in ORGDP's Engineering Division, will offer wares at the Foothills Craft Guild show and sale in Oak Ridge early in November.



Y-12 WIVES INVOLVED — Union Carbide wives will exhibit parchment note paper at the Craft fair. From left are Gwen (Mrs. Larry) McLaughlin; Barbara (Mrs. D. William) Hackett; and Helen (Mrs. John) Ellison. Barbara holds a "Heart-bursting-with-love" from her backyard, which is one of the dried berries used in the exquisite designs. Flowers and other dried arrangements are used in the parchment designs. The parchment is made from the wax paper and tissues.



CHRISTMAS ART — Olive Morrison will feature beautiful Christmas wreaths and candle holders at the Foothills Craft Guild show. She is married to Jim Morrison, ORGDP's Planning and Analysis Division, who is co-chairman of the show and sale.



**UNITED WAY KICK-OFF** — Speakers from various agencies around East Tennessee extolled Nuclear Division employees to support the United Way drive. From left are, Mike Perry, Morgan County Rescue Squad, Wartburg; Paul Vanstrum, vice president - engineering and development for the Nuclear Division; Jim Pearson, executive director for the East Tennessee

Rehabilitation Center; Diane Miller, representing the Michael Dunn Rehabilitation Center of Roane County; George Evans, coordinator of the drive for the Nuclear Division's three Oak Ridge plants; and Byrd Duncan, Briceville Health Center. The kick-off drive was held in the Oak Ridge Civic Center, with guest speakers as well as employees.

## Michel, Perry assume ORNL staff positions

Two appointments in ORNL's Central Management Offices have been announced by Herman Postma, Director.

John W. Michel is technical assistant to Murray W. Rosenthal, Associate Director for Advanced Energy Systems. Roger E. Perry is staff assistant to Frank R. Bruce, Associate Director for Administration.

A native of St. Joseph, Mo., Michel received a degree in chemical engineering from the University of Kansas. He began his career with Union Carbide at ORGDP in 1945. In 1959 he transferred to ORNL where he was involved in the analysis and development of gas-cooled reactors, the boiling potassium-cooled reactor and a variety of safety aspects of light-water reactors.

Michel played a responsible role in the ORNL studies of agro-industrial complexes and the use of process heat from reactors. During 1964-65 he spent a year and a half on assignment to the Australian AEC leading their design efforts on BeO pebble bed reactors. He most recently spent 14 months with Uranium Enrichment Associates participating in their evaluation of a private enrichment venture.

Michel will aid Rosenthal in his overall administrative and technical responsibilities, with special attention to reviewing new energy options and coordinating regulatory programs.

The Michels live at 104 Caldwell Drive, Oak Ridge.

Roger Perry is a native of Maryland. He holds an A.B. degree in chemistry from Harvard College and an M.S. degree in physics from the U.S. Naval Postgraduate School at Monterey, Calif. He spent 21 years in the Navy where he was involved in the nuclear weapons program.

Perry joined the staff at AECOP in 1970. At AECOP he worked on a variety of studies for the AEC's Division of Military Applications. About a year ago, Perry joined the Development Division at the Y-12 Plant where he was involved in



Michel

Perry

program planning and budgeting and the coordination of energy programs.

As staff assistant, Perry will work on special projects and other administrative duties as assigned.

Perry is a member of Sigma Xi and the U.S. Naval Institute. He and his wife, Lee, reside at 866 West Outer Drive, Oak Ridge.

## Calendar of EVENTS

### COMMUNITY

#### October 26

Oak Ridge Civic Music Association: Symphony Orchestra: Oak Ridge High School, 8:15 p.m. Admission: Adults \$3; students \$1.50.

"A" Shift Turkey and Ham Shoot. Oak Ridge Sportsman Association, 9:30 a.m.

#### October 27

Children's Museum: "Folk Art of Appalachia," presented by John Rice Irwin. Highland View School, 2:30 p.m. Free.

Oak Ridge Civic Ballet Association: "Stars of the Russian Ballet." Clarence Brown Theater, UT, 3 p.m. and 8 p.m. Admission: Adults \$3; students \$2 (if purchased in Oak Ridge.)

## United Way campaign opens in Oak Ridge facilities

The three Oak Ridge plants kicked off their United Way drive recently with speakers from out-lying counties who benefit from the annual drive. Representatives from all three Nuclear Division plants heard these speakers express thanks for help from this area. (Paducah opened its UW drive Monday, October 14.)

Mike Perry, from the Morgan County Rescue Squad, told of the activities of his organization in Wartburg. Jim Pearson, executive director of the East Tennessee Rehabilitation Center, told of the many benefits rendered citizens by the center.

Diane Miller described the Michael Dunn Rehabilitation Center in Roane County. Byrd Duncan, always popular with Nuclear Division audiences, described activities at the Briceville Health Center.

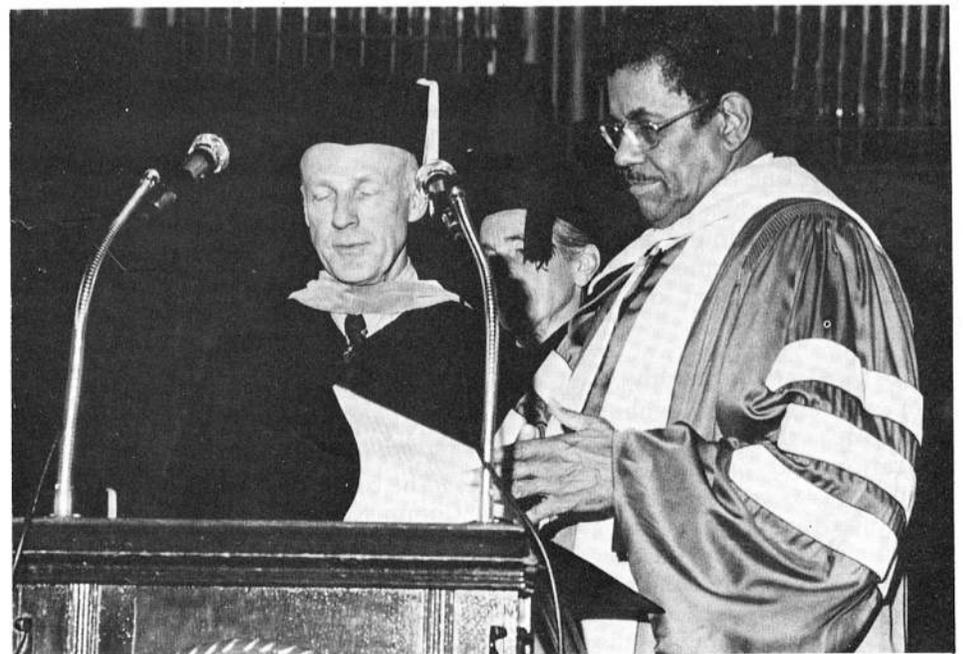
Paul R. Vanstrum voiced management's endorsement of the United

Way; George Evans, who heads the UW drive, briefly outlined plans for the campaign; and other leaders from management and labor unions gave their approval to the drive.

Meanwhile, first reports from the drive indicate that 55 percent of the goal has been attained. Official reports show that \$229,099 of the \$420,000 goal was reached in the first report, showing the magnitude of the number of continuous fair share givers.

**The Oak Ridge Gaseous Diffusion Plant already is over its goal! The General Staff has attained 84 percent of its goal; the Y-12 Plant 60 percent of its intended total; and Oak Ridge National Laboratory indicates that 41 percent of its goal has been reached.**

The kick-off rally was held at the Civic Center, Oak Ridge.



**HONORARY DEGREE RECEIVED** — Percy A. Staats, ORNL's Physics Division, was presented with an honorary Doctor of Science degree by James R. Lawson, President of Fisk University. The award was part of the Silver Jubilee celebration of the Fisk University's Infrared Spectroscopy Institute. Staats was honored for his contributions to the Institute's growth and success, as a faculty member and as director of the infrared programs over the past 18 years. Begun in 1949 as a two-day course for scientists and students in the Southeast, the Fisk Institute has grown into three internationally-recognized annual courses in infrared spectroscopy and gas chromatography.

## Women in management: conflicting opinions on strengths, weaknesses

By Emily D. Copenhaver

With the advent of the Fair Pay Act and Equal Employment Opportunities, women are finding that doors once firmly closed to them are opening up, albeit not too enthusiastically in some cases. However, these open doors may not solve the problems of the would-be woman manager; indeed, they can often lead to new, different problems of how do I prepare myself for advancement, what are my strengths and weaknesses in relation to a new life style, and can I measure up and be accepted in a "man's world."

Such questions are not easily answered, as evidenced by the conflicting data reported at the conference on "The Challenge of Leadership - Women in Management" held in Gatlinburg, September 11-12. Although the conference speakers and participants agreed that women must be come aware of these very questions and actively seek out answers to them, three of the reports used to document points under consideration do not necessarily agree.

### Gallagher study

Dr. Rosaling Loring, Assistant Dean of University Extension, University of California, Los Angeles, and author of "Breakthrough: Women Into Management" cited a recent survey of 250 leading U.S. corporations by the *Gallagher President's Report*, a weekly newsletter to top corporation executives, and a study completed recently by Drs. Herbert and Jeanne Greenburg, Marketing Survey and Research Corp., Princeton, N. J., based on a random sampling of several hundred salesmen and management employees in such jobs as auto sales, real estate, data processing, retail selling, banking and insurance and heavy manufacturing.

The Gallagher study predicts a bright future for women executives even though two-thirds of the top executives questioned admitted that women are discriminated against in business today. Seven out of 10 executives interviewed felt women executives are superior to men in paperwork and detail and approximately one-third think women are more economical with company funds. This report notes that the biggest obstacle for women executives is male ego resentment of a woman boss.

### Greenburg study

In contrast, the Greenburg study concludes that sex, age, race, education and previous experience are not real as criteria to predict success; the Greensburgs say what really determines an employee's success in any job is "the dynamics within a human being." "These (findings) clearly destroy many of the myths relating to sex difference in effective work potential. If anything, contrary to common belief, females often are more assertive than males. They are at least as reliable, somewhat less complacent, and somewhat more sociable. Women are a bit more impulsive than men, and certainly do not trail men in their energy level or willingness to work."

In regard to the basic personality dynamics, the Greensburgs found the female at least as strong as the male in all areas, and in a few bases, stronger. "Perhaps surprisingly, the female group demonstrates somewhat better leadership ability, and has a much higher percentage of good decision-makers and delegators than does the male group. Ironically, where females are thought to be superior - in detail ability - the males have somewhat the edge."

A third article used at the conference, "The Woman As Boss," by Dr. Joyce Brothers, cites research by Norman Maier demonstrating that women leaders are not as effective as male leaders unless they are given direction. Other studies cited by Brothers indicated that females have heightened perception, more social maturity, and that women tend to undervalue the work of other women. However, Brothers does cite a study at the University of Texas showing that the competing women, in the masculine sense of the word, are not disliked by others. (The participants in this study were 500 college students, both male and female.)

These data serve to point up the fact that not a great deal can be assumed from isolated studies and that much research is needed in the area of women in management. On the other hand, just one decade ago studies of this type were virtually nonexistent; you really have come a long way, baby.

A summary of the conference on The Challenge of Leadership is available upon request from Emily Copenhaver or some of the other ORNL attendees: Jeanne Carver, Betty Maskewitz, Brena Stevens, Anita Gill, Elaine Huber, Jo Sharp, Maudean Shanks, Carol Oen, Helen Pfuderer, and Carmen Trammell.

Other Nuclear Division women who attended the Conference are: Bonita Gately and Pamela Thomas, General Staff at ORGDP; Phyllis Johnson, Nancy Garrison, Georgia Rader, Mary Fairfield, Margaret Eager, Sammie Mattingly, Dottie Moore, Betty Shuttleworth and Carolyn Jones, all of the Y-12 Plant.

The University of Tennessee is considering future seminars and conferences in the area of women in management if sufficient interest is maintained. Further information on future plans may be obtained from: Division of Continuing Education, University of Tennessee, Knoxville, TN 37916.

The State of Tennessee also has a Commission on the Status of Women. A newsletter reporting its activities may be obtained by writing to the Commission at 1212 Andrew Jackson Building, Nashville, TN 37219.

## COMPANY SERVICE

### GENERAL STAFF 30 YEARS

Joseph O. Alexander, Purchasing Division.

### 25 YEARS

Barbara E. Srite.

## ORGDP promotions place eight in new positions

Eight promotions have been announced at the Oak Ridge Gaseous Diffusion Plant.

William T. Bailey has been named an associate maintenance engineer in the Fabrication and Maintenance Division.

A native of Sparta, Bailey came with ORGDP in March of this year after his graduation from Tennessee Technological University.

He lives at 300 Walker Springs Road, Knoxville.

Burley P. Duncan has been made a barrier foreman in Barrier Manufacturing. He was born in Oliver Springs, and has been at ORGDP 28 years. He is a veteran of the U. S. Army.

Mrs. Duncan is the former Iva Laverne Woods, and they live at Route 3, Oliver Springs. They have four children, Judy Lease, B. Woody, Jerry and Teresa Duncan.

M. Hannah Ledbetter has been made an accounting assistant in capacity expansion.

A native of Lenoir City, she holds a B.S. in accounting from Carson-Newman College and has done graduate work at The University of Tennessee. She lives on Walker Springs Road, Knoxville.

Charles A. McAmis has also been named an accounting analyst in General Accounting.

McAmis was born in Sweetwater, and has an A.A. degree from Hiwassee College and a B.S. degree from Tennessee Wesleyan College. He has been at ORGDP 17 months, and worked with the Yates Bleachery in Flintstone, Ga., before hiring in.

He and his wife, the former Linda De Witt, live at 1111 Price Street, Sweetwater. They have a son, Brooks.

John J. Patrick has been appointed an accounting analyst in the Operations Division.

Born in Piqua, Ohio, he is a UT graduate. He joined Union Carbide in November of 1972.

Patrick lives at 201 Waddell Circle, Oak Ridge.

Earl F. Schubert, Fabrication and Maintenance, has been promoted to a maintenance foreman.

A native of Kingston, Schubert worked with the Quality Plumbing and Heating Company before joining Union Carbide last year.

Mrs. Schubert is the former Judith Ann May, and the couple has three children, Earl, Cynthia and Kelly. They live at Route 3, Harriman.

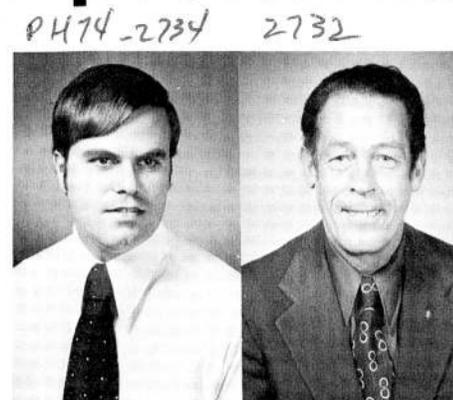
Jerry A. Stokes is a new supervisory trainee in Barrier Manufacturing. He was born in Andersonville, and holds a B.S. in forestry from UT. He was with the Tennessee Highway Patrol and Simco Properties, Inc., before joining Union Carbide earlier this year.

He lives at Route 2, Clinton.

Kenneth W. Woody is a new inspection foreman in the Laboratory Division. A native of Jenkins, Ky., he is a graduate of Lincoln Memorial University.

Woody came to ORGDP in 1945.

Mrs. Woody is the former Stella Carpenter, and they live at 122 Outer Drive, Oak Ridge.



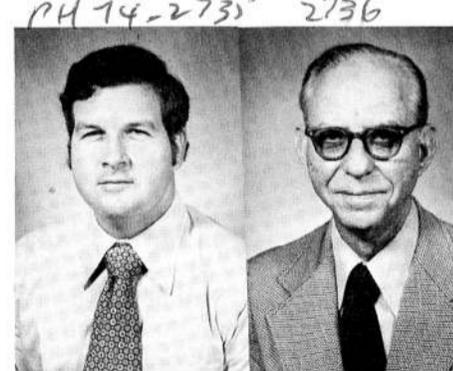
PH 74-2734 2732  
Bailey Duncan  
PH 74-2688 2733



Miss Ledbetter McAmis  
PH 74-2687 2686



Patrick Schubert  
PH 74-2735 2736



Stokes Woody

### ORNLERS CONTRIBUTE TO NEW BOOK

Two ORNL employees contributed chapters to a new book, **Human and Ecologic Effects of Nuclear Power Plants**. The book is designed to provide a comprehensive introduction to nuclear power and its consequences to the interested layman, as well as to serve as a useful reference for the technical expert.

William B. Cottrell, director of the Nuclear Safety Program, contributed a chapter entitled, "Control of Radioactive Wastes in Operating Nuclear Facilities." Lawrence B. Shappert, an engineer in the Chemical Technology Division, wrote a chapter on "Shipment of Radioactive Materials."

The book was edited by Dr. Leonard A. Sagan, Palo Alto (Calif.) Medical Clinic, and published by Charles C. Thomas Publishers of Illinois.



*'THINGS THAT BURN' — Paducah Plant emphasized fire losses in the observation of Fire Prevention Week. Bill D. Penry, chairman of the program, pointed out that "too often, people are the things that burn." Shown above are the employees at Paducah who were appointed inspectors, and were active in pinpointing specific fire hazards in work areas throughout the plant.*

## Hunting on AEC land dangerous and illegal

With the onset of the annual hunting season, employees and local citizens are reminded that hunting on the AEC's Oak Ridge reservation is illegal. Hunters on the reservation endanger human lives as well as violate city and state laws.

Recently an ORNL employee was startled by a nearby gun blast while conducting field studies in the area. The employee immediately left the area and reported the incident to the proper authorities.

Although no one was injured, the incident served as a warning of what could happen when illegal hunting is carried out on the reservation.

Ecology technicians and foresters may be found working in the field almost all of the time, including nights and weekends. Most of these employees wear khakis, which are not highly visible. These employees have no protection against hunters using high-powered rifles (which carry a long way) for hunting deer or shotguns that are sometimes used (illegally) to hunt squirrels.

Virtually all AEC property in this area is within the Oak Ridge city limits and is covered by Section 17-63 of the City Code of Ordinance, which prohibits the discharge of firearms except in authorized areas (such as firing ranges). The Tennessee Wildlife Resources Agency is authorized to enforce laws prohibiting hunting or poaching on AEC property.

Increased security measures are being taken by Nuclear Division security forces as well as State Wildlife Resources personnel to prevent illegal hunting during this season. Employees who notice unauthorized persons or vehicles (or shooting) in the area are asked to report to one of the Nuclear Division security offices as soon as possible.

Individuals caught hunting or poaching in the restricted areas will be subject to fines, in addition to having their guns and vehicles confiscated.

## Consultant and former division director gets instrumentation award

Myron T. Kelley, ORNL consultant and former director of the Analytical Chemistry Division, has been named 1975 recipient of the American Chemical Society Award in Chemical Instrumentation. The award includes \$2,000 in cash and is sponsored by Sargent-Welch Scientific Company.

Kelley is being recognized principally for his computer treatment of analytical systems and for the analytical instruments he designed for nuclear technology.

A native of Allerton, Iowa, Kelley received the B.S. and M.S. degrees from the University of Nebraska. He later received the Ph.D. in physical chemistry from Iowa State College.

During his 25 years on the Analytical Chemistry staff, Kelley was involved in the development of highly sensitive and sophisticated analytical instruments for the remote handling of radioactive materials. Since his retirement in 1973, he has served as consultant to the Division in all aspects of analytical chemistry, with particular attention to computer use and instrumentation. He is also a consultant to Tenncomp Systems, Inc., where he is involved in computer treatment of gamma-ray spectra.

Kelley has authored or co-authored numerous scientific papers, and holds membership in several professional organizations.



Kelley

### VOTE-VOTE-VOTE-VOTE-VOTE

"When elections end, there slavery begins," said John Adams almost two hundred years ago. You may protect your country and its institutions by voting November 5. Support your political ideals with a pull of the lever!

# New positions for Beets, Clark, Huffstetler, Pair

The promotion of four employees at Oak Ridge National Laboratory was announced recently.

Arnold L. Beets was made a process foreman in the pilot plant section of Chemical Technology; Ralph L. Clark became a shops foreman in the fabrication department of Plant and Equipment; Joy K. Huffstetler is a library specialist in the Information Division; and Paul W. Pair was promoted to laboratory supervisor in Analytical Chemistry.

Beets, a native of Clinton, graduated from Norris High School. He came to work at ORNL in 1965 and worked in Analytical Chemistry and Isotopes research before joining the Chemical Technology staff. Beets has taken several training courses offered by the Division and was a senior laboratory technician prior to his promotion.

Beets is married to the former Jean Anderson. They reside at Route 2, Clinton.

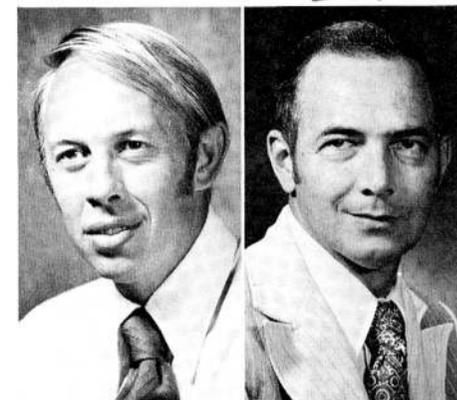
Ralph Clark was born in Georgia, but has spent most of his life in Oak Ridge. He graduated from Oak Ridge High School and came to work at ORNL in 1957. Clark completed the apprenticeship program at ORNL and became a machinist. He was a planner-estimator prior to his recent promotion.

Clark resides with his wife, Emma, and daughters, Carol and Tracey, at 113 Robin Lane in Oak Ridge.

Mrs. Huffstetler is originally from White Deer, Tex., but has lived in Oak Ridge intermittently since 1944. She earned the B.A. and M.S. degrees in library and information science from The University of Tennessee.

Mrs. Huffstetler worked as a substitute teacher at the Oak Ridge High School, and was director of the Camp Fire Girls for five years.

Her husband, J.T., is employed in General Engineering at ORNL. They have two daughters - Lise, a student



Beets

Clark



Mrs. Huffstetler

Pair

at Appalachian State University, and Kae, who is taking drafting in the TAT Program at Y-12. They live at 136 Orchard Lane, Oak Ridge.

Paul Pair is a native of Madisonville. He graduated from Hiwassee College and attended The University of Tennessee. He served as a pilot in the U. S. Air Force during World War II.

Pair began his career with Carbide in the Y-12 Operation Division in 1951. In 1956 he transferred to ORNL's Analytical Chemistry Division. He was a senior laboratory analyst prior to his promotion.

Pair is married to the former Marie Rader. They have two children, Paula and Debbie, and reside at 134 Manhattan Avenue, Oak Ridge.

## Calendar of EVENTS

### TECHNICAL October 18

Health Physics Division Annual Information Meeting: East Auditorium, Building 4500N, 9 a.m.

### October 21

Neutron Physics Division Annual Information Meeting: East Auditorium, Building 4500N, 1:30 p.m.

### October 21-22

Small Computer Information Seminar: Central Auditorium, Building 4500N, 9 a.m.

### October 21-24

Eighteenth Analytical Chemistry Conference in Nuclear Technology: Riverside Motor Lodge, Gatlinburg.

Health Physics Society Symposium: Hyatt Regency, Knoxville.

### October 22

Neutron Physics Division Annual Information Meeting: East Auditorium, Building 4500N, 9 a.m.

### October 24-25

Association for Computing Machinery Conference: Riverside Motor Lodge, Gatlinburg.

### November 5-6

Chemical Technology Information Meeting: Oak Ridge National Laboratory.

### COMMUNITY October 18-27

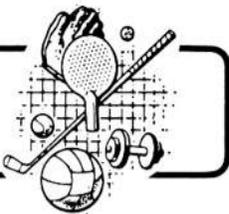
Art Center presents: Contemporary Afro-American Art. Oils and watercolors.

### October 24

Y-12 "C" Shift Rodeo: Bayside Boat Dock, Watts Bar. 6 a.m. to 5 p.m.

PH 14-2698 et al

# RECREATION NOTES



### ORNL BOWLING

The A League puts the Woodchoppers atop the pack, 11 and one-half points ahead of the Gutterfinks "A" team. The Ten Pins recently rolled a 3079 series, as F. Davis rolled a 662 handicap series.

The Damagers are out front in the C League, barely ahead of the Pin Heads. D. S. Joy recently rolled a 655 handicap series . . . as the Pin Heads put a 3052 handicap series up.

The Pick-Ups lead the ORNL Ladies League, a few steps ahead of the Strikettes.

### CARBIDE BOWLING

The Oops team still faces the music in the Carbide Family Mixed League, with Bill Smith and Carolyn Williams pacing bowlers recently.

### ORGDP BOWLING

The All Stars have assumed a commanding lead in the Tuesday League. L. B. True waxed hot recently on the hardwood, packing away a single of 232 and a series of 575, both scratch.

The Planners pace the Wednesday League, barely. The Mix-Ups breath down their necks. Marv Gilreath was a hot bowler recently with games of 207-244 and a series of 545-656. His team, the Sandbaggers, hand a 1038 game, a 2988 series.

Jim Fletcher also bowled hot recently, posting a 255 scratch game.

Mary Foley's 159-206-211 games the other night paced the ORGDP Women's League.

The Uptowners lead the pack, only a point ahead of the Payoffs and Spotters.

### 22 CALIBRE RIFLE LEAGUE

Scratch winners in the Summer 22 Calibre Rifle League include E. T. Johnson Jr., Y-12, with a score of 282.692; J. E. Brewer, ORGDP, 275.750; and L. W. Weston, ORNL, 268.727.

Handicap winners were T. Lemons, ORGDP, 288.573; R. H. Ward, ORNL, 287.273; and J. M. Miller, ORNL, 287.078.

### Y-12 BOWLING

**C LEAGUE NEEDS BOWLERS . . .** just call Recreation, extension 3-5833! They roll at 5:45 p.m. every Monday at Ark Lanes.

DLM Used Cars are currently on top of the league, above the Badgers and Rounders. Tom Hillard rolled a 648 scratch series recently.

The Mixed League sees the Friskies out front, barely in front of the Roses 'n Thorns. Russ Greeley put a 686 handicap series on the boards on a recent night.

The Eightballs lead the Classic League, a full three ahead of the Playboys. The top team recently rolled a 3098 handicap series!

### VOLLEYBALL — BASKETBALL

The Recreation Department is taking orders for team entries in Volleyball and Basketball Leagues, set to get underway in mid-November. Just give them a call at 3-5833.

### PADUCAH GOLF

The Mixed Scrabble Golf Tournament held the last day of September saw rain fall off and on on the golfers. The winners, captained by Sid Lester, were Max Sacharnoski, Mike Flood, Steve Sevenski and Patti Turok, with a seven under par. Eurie Smith's team, unfortunately, had to settle for second place after losing a tie breaking play-back. Van Bryant took third place with his team, beating out Arv Gorline's team. Eugene S. Waggoner won the "pick-the-winner" contest by naming winners with their exact scores.

### PADUCAH BOWLING

The Scrappers hold a nine-point lead in the Paducah Bowling League over the Cyclones. They are followed by the Ezy-Marks, Aly-Katz, Pumpers, Tigers, Googins and the Strikeouts.

The league rolls at 5:45 p.m. at the Cardinal Lanes, and still needs bowlers. Call Leroy Hall, or contact Recreation, PAX 335 or 324.



**CONSTRUCTION AT ORELA** — Many curious minds have wondered what is being constructed on top of building 6010 at ORNL. According to Fred Maienschein, director of Neutron Physics, an additional floor, which will include offices and a conference room, is being built to accommodate the expanding staff of the Physics and Neutron Physics Divisions. This will make laboratory space available that is now being used as office space.

**ORGDP ENJOYS PICNIC** — What is so rare as a fall picnic, complete with barbecue (you never tasted anything so good), games for the kids, a rock band for the younger set, and softball for the adults. There was a record crowd on hand to enjoy the festivities, too! The annual event always brings out a record number.

# Lung cancer: gloomy present—hope for the future

*(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning their health in general. Questions are handled in strict confidence, as they are handled in our Question Box. Just address your question to "Medicine Chest," NUCLEAR DIVISION NEWS, Building 9704-2, Stop 20, or call the news editor in your plant, and give him your question on the telephone.)*

By T. A. Lincoln, M.D.

Last year in an article in *Chest*, Dr. Donald Zavala, Associate Professor of Medicine at the University of Iowa, expressed an attitude that is prevalent among many chest physicians. "When one speaks of bronchogenic carcinoma and the results of therapy, we have not progressed very far down the road since the days of calomel and leeching . . . The more acquainted one becomes with lung cancer, the more discouraged one becomes. The survival statistics are utterly dismal."

Perhaps because the picture is so bleak and nothing new seems to be happening, lung cancer doesn't get much publicity. Whenever a person is killed in an auto accident, the story often gets front page coverage, yet when two or three middleaged men quietly die from lung cancer, it is hidden in the obituary column. The toll from lung cancer last year was about 72,000 deaths, while from auto accidents it was only 56,600.

### Detection too late

The reason for the extreme pessimism is because lung cancer is seldom curable when it is detected. A nodule of tumor in the lung can rarely be seen in a chest x-ray until it gets about one centimeter in diameter. This size represents about twenty generations of dividing cells from the original malignant transformation which presumably occurred in one or, at most, a few cells. By the time it is detectable in a chest x-ray, a million cells are present and the cancer has gone through 80 percent of its life span. The length of time it takes to grow from one cell to a million cells varies with different tumors. Based on observations made on cancers followed by sputum cytology, it is believed that the undetectable phase, at least by X ray, may last from one to ten years. It is obvious, therefore, that any screening program, no matter how frequently tests are performed, will not have much effect if the cancer is already incurable when found.

To reassure those who have had surgery and are clinging to the hope that they may be cured, the earlier a cancer is found the better the prospect for cure. Slow growing tumors do not spread to distant sites (metastasize) as rapidly as rapid growing

tumors. Although survival statistics seem to vary widely from hospital to hospital, region to region, and even country to country, the overall five-year survival rate is about six percent. Those who have slow growing tumors which are detected early have a survival rate of 15 to 25 percent. Unfortunately, most tumors are rapid growing and metastasize early.

### Cells found in sputum

The examination of cells shed from the lung into the sputum and then coughed up should improve the prospects for early detection and cure. Unfortunately, the cure rate has been disappointing. When cancer cells are found in the sputum, it is already often too late. When the cells found have been shed from an early tumor that is confined to the surface of a bronchial tube, called carcinoma in situ, the prognosis is much better. A major problem, however, is finding where the cells are coming from. When the chest x-ray is negative, additional tests have to be performed. Using bronchoscopy, a direct visual inspection of the major bronchi is completed and if nothing is seen, each bronchus is brushed, much like a milk bottle is cleaned with a round brush. The cells which have been scraped off are collected and examined. If the cells are malignant and come from only one bronchus, the location of the cancer can be assumed to be in the lobe of the lung supplied by that bronchus or in the lining of the bronchial tube itself. Unfortunately, sometimes no tumor can be found, even though malignant cells are repeatedly found in the sputum. These people have to be followed extremely close until the tumor gets large enough to be found. In a few cases, this stressful waiting period may last several years.

The only way to make a dent in the lung cancer problem is to find people with degenerative changes in their lungs which may be precancerous. Sputum cytology can be used for this purpose, but the difficulty is knowing the real meaning of these changes. Cytologists generally feel that dysplastic or atypical cells classed as marked atypia are a strong warning that a precancerous condition exists. The significance of mild or moderate atypia is more uncertain. Since 15 to 20 percent of nonsmokers and 25 to 35 percent of smokers have moderate atypia, it is clear that most of these will never progress to cancer. The big question, then, is who will and who won't. Much more information is

## COMPANY Service

20 25 30

### Y-12 PLANT 30 YEARS

Willard C. Crawley, general shops; L. Allin Stephens, production assay; Ernest L. Pickard and Ralph L. Jeffries, research services; Ted C. Brooks, process maintenance; Hugh J. Gregory, guard department; Jessee H. Hammond, casting department; Frank A. Thurman, chemical services; Georgia M. Rader, engineering services and mail room; Clifford M. Voekel, chemical services; Horace R. Floyd, Alpha five processing; Ozella Ward, production analysis; Herman A. Maney, graphite shop; and Albert B. Campbell, Beta two chemistry.

### 25 YEARS

Ralph C. Trout, Robert C. Weaver and John N. Wade.

### 20 YEARS

Ira L. Hill, Charles E. McAlister, John W. Williams, Walter G. Seymour, David Price, James E. Barnes, Esridge Collins, Ralph E. Newcomb, William D. Ross, Bernard E. Monroe, Walter M. James and Fritz C. Flurix.

### PADUCAH 25 YEARS

Bradford D. Burklow.

### ORGDP 30 YEARS

John W. Precise, guard department; Charlie C. Bradley, chemical and technical maintenance; Leonard C. Adcox, fabrication shop department; Clarence R. Ketner, utilities operations; Harry E. Hallwas, development maintenance; Von H. Carpenter and Paul E. Clabough, U-235 separation department; Vestal M. Austin, utilities operations; Jessee L. Caldwell, chemical and technical maintenance; Albert L. Pendergrass, mechanical services; Routen C. McDaniel, stores department; Harold E. Swing, mechanical services; and Robert G. Shupe, building maintenance department.

### 25 YEARS

Robert A. Ebel.

### 20 YEARS

Earl W. Bullock, Milo E. Ward, Ray E. Potter and J. Will Jones.

desperately needed on the natural history of atypia. How many and for what reasons do some people with atypical cells eventually develop cancer? When is the process reversible and by what means? A carefully designed long-range study on a stable group of employees who could have their sputum tested every four to six months would seem to be the answer.

### Cancer high in smokers

Lung cancer will eventually strike down about 10 percent of men who have smoked 20 or more cigarettes per day for 40 years. Since most men began smoking at age 10-15, the size of the problem of lung cancer in men past 55 is apparent.

In a later article I shall list those who run an increased risk of lung cancer besides just the smokers, and say more about the finding of atypia in the sputum and its management.

# CPA certificate to Susan Lowe



Susan H. Lowe

Susan H. Lowe, General Accounting, received certification as a public accountant. The two-year veteran Union Carbide auditor was recently notified that she has passed the stringent state examinations certifying her as a public accountant.

Mrs. Lowe, the former Susan Hull, is a graduate of the University of Kentucky. She was born in Nashville.

Her husband, Raymond Lowe, is attending The University of Tennessee, and they live at 201 Overbrook Drive, Knoxville.

## Division Deaths

David E. Orr, Operations Division at the Oak Ridge Gaseous Diffusion Plant, died October 5 at his 115 Paris Lane, Oak Ridge, home.

Mr. Orr came to ORGDP in 1944, and was a veteran of the U.S. Army.

He is survived by his wife, Mrs. Scottie Orr; two sons, Dean and David; a sister, Mrs. Georgia Henderson; and a brother, Ben Orr.

Funeral services were held at the Weatherford Chapel with the Rev.

Ellis E. Hill officiating. Burial was held in the Oak Ridge Memorial Park. The family has requested that any memorials be in the form of contributions to a fund established for David Orr. They may be sent to Mrs. Charles Gaither, 113 Cedar Road, Oak Ridge.



Mr. Orr

### ORGDP RETIREE DIES

Joe D. Bandy, a former employee of the Oak Ridge Gaseous Diffusion Plant, died October 6 at his Rockwood home. He retired from Union Carbide 12 years ago. A native of Whitfield County, Ga., he is survived by his wife, two daughters, five sons, a sister, three brothers, 20 grandchildren and six great-grandchildren. Funeral services were held in Rockwood with burial in Niota.



**FINE LEATHERWORK** — Andrea Zava, Development Division in Y-12, shows some of her leathercraft to be displayed at the Foothills Craft Guild fair. Purses, belts, coin holders, key-holders and other items are tooled with the delicate designs.

## Guild crafts

(Continued from page 2)

resident of Tennessee and who meets the Guild's requirements of quality workmanship and originality. Information may be obtained by writing to Box 99, Oak Ridge, 37830.

ORNL craftsmen participating in the big fall event are Ben Benjamin (jewelry); James Brewer (jewelry); Richard Busey (wood-turning and furniture making); Roy Cooper (leatherwork); Bill Henry (wood carving); Donald Horner (woodwork); and Ron Senn (wooden games, jewelry and woodwork).

### Y-12ers involved

Y-12ers involved include Harold Fell (firearms, dulcimers and powder horns); David Gentry (wood inlays); J. Cliff Johnson (wood turning); William Dunlap and Craig Whitmire (woodwork); and Andrea Zava (leatherworking).

ORGDP's George Kidd will exhibit wooden toys, cutting boards, crosses and chair caneing. Sam Thompson will feature bird-feeders and ceramics.

Associate members include Mildred McKinney, Y-12; and Jim Morrison, ORGDP, who is co-director of the fall show.

Jim Brashier, ORNL, will exhibit his miniature carvings at the show as a guest artist.

## Daylight savings time

Daylight savings time ends in both Oak Ridge and Paducah, at 2 a.m., Sunday, October 27. Nuclear Division employees will enjoy an extra hour of sleep, as East Tennesseans roll their clocks back to 1 a.m. EST, and Kentuckians push their timepieces back to 1 CST.



### Y-12 PLANT

RIDE WANTED or WILL JOIN CAR POOL from Harriman to Bear Creek Portal, straight day. Bud Cochran, plant extension 3-5758, home Harriman 882-2919.

RIDE from Claxton area, to Bear Creek Portal, straight day. John Clark, plant phone 3-5156, home phone Claxton 945-2013.

RIDE from Jackson Square area, Oak Ridge, to North Portal or Biology Parking Lot, 8:00 a.m. shift. Yung Yoo, plant phone 3-5705.

### ORGDP

RIDE or WILL JOIN CAR POOL from Fountain City area, Cedar Lane, to Portal 1, 7:45 to 4:15 p.m. shift. Ben Alker, plant phone 3-3117, home phone Knoxville 687-7057.

### ORNL

RIDE from Lobetti Road (off Ball Road) in Knoxville, to East Portal, 8 or 8:15 a.m. shift. Patricia Mraz, plant phone 3-6244, home phone 584-2740.

CAR POOL MEMBERS from Waddell, West Outer or Pennsylvania Avenue areas, Oak Ridge, to East or North Portal, 8:15 a.m. shift. Tom Burnett, plant phone 3-6939, home phone 483-1975; or Dick Reed, plant phone 3-1801 or home phone 483-3458.

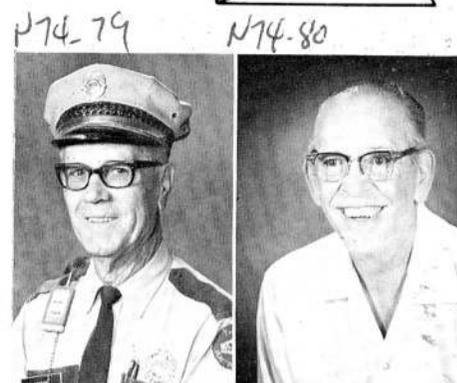
Employees at work (on shift) Saturday night will clock in on daylight saving time, out on standard time, at both the Oak Ridge and Paducah installations.

## Division Retirees

Two Y-12ers retired at the end of October, marking long careers with Union Carbide.

George A. Cowan, guard department, finished 30 years company service in June. He lives at 107 Niagara Lane, Oak Ridge.

William R. Robbins, assembly engineering, joined the Y-12 organization in 1959. He retires to his 113 Meadowbrook Street, Clinton, home.



Cowan

Robbins

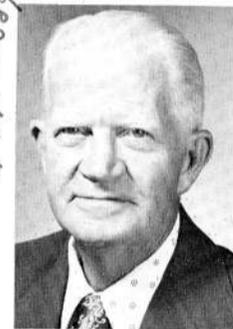
## QUESTION BOX

(Continued from page 1)

**QUESTION:** Why doesn't Carbide provide for a limited access badge to be issued to ex-employees that were forced to retire at age 65? After 20 to 30 years with a Company and job, it is mighty nice to be able to go back and visit the old place again.

**ANSWER:** The plants at Oak Ridge and Paducah are operated by UCC-ND under contract with the AEC. As a part of its contractual obligation, Carbide must limit visitors, cleared or uncleared, to those individuals required in the performance of each plant's operations. Generally, when an employee retires or leaves the employ of the Company for any other reason, his need for further access ceases. There are some exceptions to this rule as some former employees become consultants or are employed with firms whose services are required by one of the plants.

Each plant has a procedure which permits retired employees to visit the Company Store at his former plant.



Blackwell

Lee R. Blackwell, Oak Ridge Gaseous Diffusion Plant's Operations, will retire at the end of October, ending more than 29 years there. He lives at 399 Robertsville Road, Oak Ridge.

Henry W. Murrin, electrical maintenance, ORGDP, retired September 1 after more than 29 years there. He lives at 107 Parma Road, Oak Ridge.

### FORMER PATENT ATTORNEY

Arthur L. Davis, a former patent attorney in the law department, died October 5, in a Knoxville hospital. A native of Missouri, Mr. Davis was a graduate of the University of Missouri and did graduate work at Massachusetts Institute of Technology. He is survived by his wife, a daughter and a son.



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