

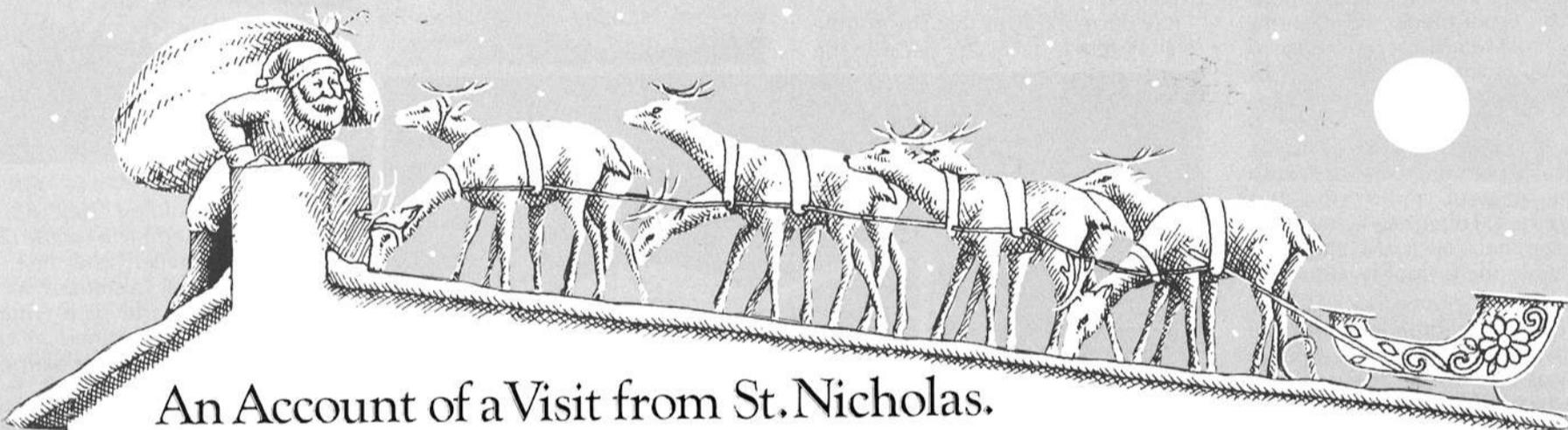


# NUCLEAR DIVISION NEWS

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

Vol. 6, No. 25

December 24, 1975



## An Account of a Visit from St. Nicholas.

'Twas the night before Christmas,  
 when all through the house  
 Not a creature was stirring, not even a mouse;  
 The stockings were hung by the chimney with care,  
 In hopes that St. Nicholas soon would be there;  
 The children were nestled all snug in their beds,  
 While visions of sugar-plums danced in their heads;  
 And mamma in her 'kerchief, and I in my cap,  
 Had just settled our brains for a long winter's nap;  
 When out on the lawn there arose such a clatter,  
 I sprang from the bed to see what was the matter.



Away to the window I flew like a flash,  
 Tore open the shutters and threw up the sash.  
 The moon, on the breast of the new-fallen snow,  
 Gave the lustre of mid-day to objects below,  
 When, what to my wondering eyes should appear,  
 But a miniature sleigh, and eight tiny rein-deer,  
 With a little old driver, so lively and quick,  
 I knew in a moment it must be St. Nick.



More rapid than eagles his coursers they came,  
 And he whistled, and shouted, and called them by name;  
 "Now, *Dasher!* now, *Dancer!* now, *Prancer* and *Vixen!*  
 On, *Comet!* on, *Cupid!* on, *Donder* and *Blitzen!*  
 To the top of the porch! to the top of the wall!  
 Now dash away! dash away! dash away all!"



As dry leaves that before the wild hurricane fly,  
 When they meet with an obstacle, mount to the sky;  
 So up to the house-top the coursers they flew,  
 With the sleigh full of Toys, and St. Nicholas too.  
 And then, in a twinkling, I heard on the roof



The prancing and pawing of each little hoof—  
 As I drew in my head, and was turning around,  
 Down the chimney St. Nicholas came with a bound.

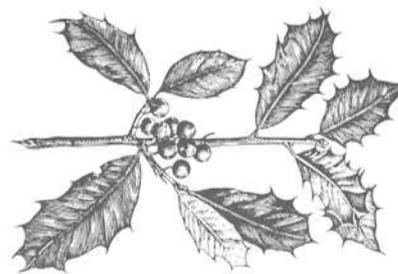
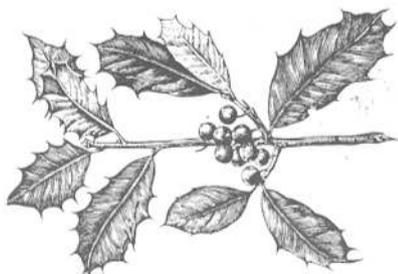
He was dressed all in fur, from his head to his foot,  
 And his clothes were all tarnished with ashes and soot;  
 A bundle of Toys he had flung on his back,  
 And he look'd like a pedlar just opening his pack.

His eyes—how they twinkled! His dimples how merry!  
 His cheeks were like roses, his nose like a cherry!  
 His droll little mouth was drawn up like a bow,  
 And the beard of his chin was as white as the snow;  
 The stump of a pipe he held tight in his teeth,  
 And the smoke it encircled his head like a wreath;  
 He had a broad face and a little round belly  
 That shook, when he laughed, like a bowl full of jelly.

He was chubby and plump, a right jolly old elf,  
 And I laughed, when I saw him, in spite of myself;  
 A wink of his eye and a twist of his head,  
 Soon gave me to know I had nothing to dread;  
 He spoke not a word, but went straight to his work,  
 And fill'd all the stockings; then turned with a jerk,  
 And laying his finger aside of his nose,  
 And giving a nod, up the chimney he rose;  
 He sprang to his sleigh, to his team gave a whistle,  
 And away they all flew like the down of a thistle.  
 But I heard him exclaim, ere he drove out of sight,  
 "Happy Christmas to all, and to all a good night."



On Christmas Eve, 1822, Clement C. Moore composed this poem as a present to his six children. Although it was not published until many years later, its 28 couplets became the most famous Christmas poem ever written. Today, the people of Union Carbide bring it to you with their best wishes for a very Merry Christmas.



In NEA satellite seminars

**Campbell Countians discuss educational problems, methods on international level**

By Carol A. Grametbauer

At nine p.m. on Tuesday, December 2, five Campbell County educators and an Oak Ridge National Laboratory technologist gathered around a communications terminal in a classroom at LaFollette Junior High School. When they left nearly two hours later, they carried with them the ideas of their counterparts in Alaska, Hawaii and the South Pacific Islands.

The Campbell Countians are involved in the National Education Association's (NEA) Bicentennial Satellite Experiment, a monthly satellite radio seminar series designed to bring teachers from halfway around the world together to discuss mutual concerns. Ray Burns, a science technologist in ORNL's Analytical Chemistry Division and a licensed amateur radio operator, operates the LaFollette radio terminal for the seminars. He is also chairman of the Campbell County Board of Education.

The December broadcast was the first in which the Campbell County group was able to participate. They had been prepared to join in the November seminar but were unable to transmit due to equipment problems. This time, however, "it worked out real fine," Burns said. "We had 20 stations participating, and 90 percent of them came in with full quieting" (radio jargon meaning with the quality of a commercial broadcast).

December's topic was "Evaluation of Teachers." Burns taped the entire broadcast so that the Campbell group could hear it again at their leisure; other local educators have also expressed interest in hearing the tape.

**Use NASA technology satellites**

The monthly seminars, funded by NEA, are made possible through cooperation by the National Aeronautics and Space Administration (NASA) in linking three communications networks: the Alaskan, the Pacific PEACESAT project (Pan-Pacific Education and Communication Experiments by Satellite), and the National Institute of Health Biomedical Communications networks.

The mechanics of the linkup, which involves NASA's Applications Technology Satellites Numbers One and Three (ATS-1 and ATS-3), were outlined in the November issue of the Tennessee Education Association's TEA News by Harold E. Wigren of Washington, D.C. A telecommunications specialist, Wigren is

international coordinator for the program.

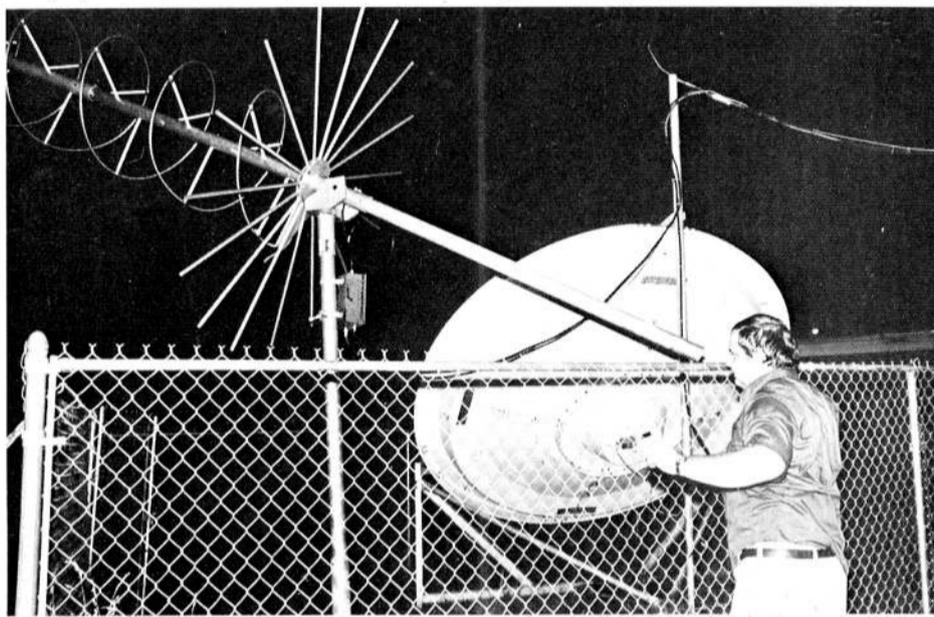
According to Wigren, the LaFollette signal "is beamed directly to ATS-3 (over the Equator) 22,300 miles, then beamed to Denver, Colo., 22,300 miles; and that station beams to ATS-1 over Samoa, which in turn sends to Saipan and New Zealand.

"They performed an engineering feat at Denver by building a mechanism which can see both satellites and switch signals," Wigren explained.

Ray Burns explains that the double relay system is necessary because the



'COME IN SAIPAN' — ORNL science technologist Ray Burns mans the radio controls for the December 2 seminar, the first in which Campbell Countians were able to actively participate. Educators at 20 stations joined in the discussion of teacher evaluation.



AIMED AT THE SKY — Doug Cross, satellite coordinator for the Clinch-Powell Educational Cooperative, checks out the transmitting and receiving equipment used for the NEA satellite seminars. The Campbell County signal is beamed from LaFollette Junior High to NASA's ATS-3 over the Equator; to Denver, Colo.; to ATS-1 over Samoa, and on to Saipan and New Zealand.

broadcasts take place during the daylight hours in the South Pacific (although it is nine the night before in Campbell County).

Campbell County is the most recent location to be added to the seminar series' list of participants. The program was launched in 1972, with teachers in eight Alaskan villages and NEA Central in Washington participating. The South Pacific participants joined the program in October of this year.

The complete roster of participants now includes Fiji; New Zealand; Hawaii; the islands of Rarotonga, Papua New Guinea, Saipan, Niue, Honiara, Tarawa, and Tonga; and the Alaskan cities of Juneau, Anchorage, Fairbanks, Arctic Village and Aniak. In the continental U.S., participants include groups at Huntsville, Ala.; Cumberland, Md.; Norton, Va.; Lexington, Ky.; Fredonia, N.Y.; Bethesda, Md., and Washington, D.C.

**Brought in by TEA**

Campbell County's involvement in the program began indirectly several years ago when the school system participated in Career Education, a program through which county educators were able to communicate via radio with faculty at the University of Kentucky. NASA's communications terminal and transmitting and receiving equipment were installed in LaFollette at that time.

Funding for the Career Education program was discontinued in March 1975. After that, the equipment sat idle, although Burns continued investigating other possibilities for its use.

In September Charlene Collier, of TEA's Instruction and Professional Development Department, visited Campbell County schools to discuss their possible participation in the NEA satellite series. The opportunity seemed perfect: the county's geographic location is good for radio transmission, the equipment was already installed, and Burns, with 37 years' experience as an amateur radio operator, offered his services as moderator and technical advisor.

The five Campbell educators currently involved in the series are Margaret Balint, Title I reading coordinator; Gail Garrett, resource teacher in the reading program; William A. Russell, biology teacher at Campbell County Comprehensive High School, and Charles Wells, guidance counselor at Jacksboro

Junior High. Other personnel involved in the project include Douglas Cross, satellite coordinator at the Clinch-Powell Educational Cooperative, and Everett Jones, superintendent of Campbell County schools.

**Radio operator since 1938**

Ray Burns is enthusiastic about Campbell County's participation in the series, both in his role as technical advisor and as school board chairman. "I want to find out how schools in other countries are operated," he says. "This country uses the school board system. I'd like to learn if in other countries the schools are run by the government, or by some other agency — and how well their systems work."

Burns was licensed as an amateur radio operator in 1938; his call is W4TZG. A native of LaFollette, where he currently makes his home, he has been a member of the Campbell County Board of Education for five years and its president for two.

He joined the Nuclear Division in 1952, after three years' employment with the Atomic Energy Commission in Oak Ridge. He has worked in Analytical Chemistry Division all of his 23 years with Carbide.

Burns and his associates in Campbell County are looking forward to January 6, when they will again go on the air, this time to discuss new developments in teacher in-service education. In March, with the experience of three seminars behind them, the Campbell group will act as international moderator for a discussion of "Teaching in Rural Areas."

Harold Wigren describes the satellite seminars as "an idea supermarket for teachers where new ideas and teaching strategies are discussed. From half the world, teachers once isolated will compare notes and exchange ideas on topics of educational concern."

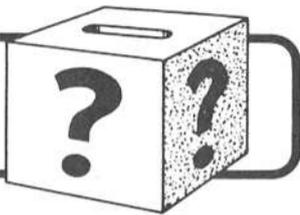
During this exchange of ideas, Campbell Countians will be on the air.

**NUCLEAR DIVISION SAFETY SCOREBOARD**

Time worked without a lost-time accident through December 18:

Paducah .....	73 Days	670,000 Man-Hours
ORGDG .....	92 Days	1,966,805 Man-Hours
ORNL .....	37 Days	770,000 Man-Hours
Y-12 Plant .....	80 Days	2,060,000 Man-Hours

## QUESTION BOX



If you have questions on company policy, write the Editor, Nuclear Division News (or telephone your question in, either to the Editor, or to your plant contact). Space limitations may require some editing, but pertinent subject matter will not be omitted. Your name will not be used, and you will be given a personal answer if you so desire.

**QUESTION:** After checking with both the UCCND Insurance Office and the Blue Cross/Blue Shield office, I have learned that my dependent children are covered under the hospitalization policy but are not covered under the Major Medical policy. This situation exists because I am divorced and my children live with my ex-spouse. I would like to know why children of divorced parents are excluded when the employee is still liable for medical insurance coverage.

**ANSWER:** Effective January 1, 1976, the Nuclear Division Major Medical Plan is being revised to provide coverage for children of divorced employees, even though they may live with the ex-spouse, in cases where the terms of the divorce settlement issued by the court requires the employee to provide medical expense protection coverage.

**QUESTION:** Is there a conflict of interest in one of our plant's Affirmative Action Coordinators also working as an employment supervisor?

**ANSWER:** Your question parallels several others which have been asked of our affirmative action staff. Examples of the other questions: "Can a white man be an effective Affirmative Action Coordinator?"; "Can a black man effectively represent white women, or indeed, all other blacks?"; "Can a white woman represent black women?". The answer to your question and to all of these depends upon the qualities of

the individual who is the coordinator and the degree of management support which is given to the coordinator. It is a goal of the Nuclear Division to select competent coordinators and to give them strong support.

In the particular case you mention, a strong coordinator working as an employment supervisor can have an advantage. Such a person knows the openings, the candidates, and the affirmative action goals for each division and can have a strong influence on affirmative action hiring by the division managers who do have the responsibility for hiring.

**QUESTION:** If within our three (Oak Ridge) plants, one plant is terminating and the other two are hiring, can an employee from one of the two plants that is hiring take a reduction in force? If not, why? This might save someone's job. Don't you think it's a good idea, since we are, supposedly, "all one big happy family" now?

**ANSWER:** Such action can be justified only if it encourages employees who are seriously contemplating terminating to make their decisions promptly in order to save the jobs of others. It cannot be justified if it merely provides payment of a lay-off allowance to an employee whose decision to terminate has already been made. Our experience in 1973, when Y-12 was having heavy reductions and we did accept substitutes from the other two locations, indicated that we didn't really speed up terminations at those locations. We just ended up paying to some terminating employees, who were going to quit in any event, a lay-off allowance they would not have otherwise received.

At the present time, we do not plan on resuming this practice.

(Please turn to page seven)

## Beeson announces organizational changes in experimental engineering

Several organizational changes in Experimental Engineering at Oak Ridge National Laboratory have been announced by Hugh C. Beeson, superintendent.

Tom E. Shannon, formerly with Mechanical Engineering at the Oak Ridge Gaseous Diffusion Plant, joined the staff as head of the research engineering studies department. Shannon received his M.S. degree in engineering mechanics from Ohio University, and joined the Nuclear Division staff in 1969. In his new position, Shannon will lead the engineering efforts on the Experimental Power Reactor and other controlled thermonuclear research studies.

Charles W. Collins and Carl B. Smith have been promoted to section leaders in the experimental design engineering department, which is headed by Loyd V. Wilson. Collins holds a bachelor's degree in mechanical engineering from West Virginia University. He joined the ORNL Reactor Division in 1952 and transferred to Experimental

Engineering in 1973.

Smith received his master's degree from Auburn University, with a dual major in mechanical engineering and radiological science. He has worked in Experimental Engineering since joining the Nuclear Division in 1974. Smith was previously employed by ConVair Aerospace, Fort Worth, Tex.

John E. Evans was promoted to section leader in the development engineering department, reporting to Frank C. Davis. Evans, who has a master's degree in mechanical engineering from The University of Tennessee, joined the Experimental Engineering organization in 1956.

Phil B. Thompson has been promoted to section leader in the research engineering department, which is headed by Don D. Cannon. Thompson received his B.S. degree in mechanical engineering from the University of Missouri. He worked for McDonnell Douglas in Huntington Beach, Calif., prior to joining the Nuclear Division in Experimental Engineering in 1974.

## Non-traditional research 'State of Lab' address theme

The annual "State of the Laboratory" address was presented December 9 by Herman Postma, Director of Oak Ridge National Laboratory.

Unlike previous state of the Laboratory addresses which carried a single theme, usually pertaining to nuclear energy research, Postma's address placed emphasis on the Laboratory's non-traditional areas of involvement. "Under ERDA, we may embrace virtually the full spectrum of energy technologies and the many related and supporting areas of research, development and demonstration," he said.

The two major areas which Postma chose to explore were end-use energy conservation and coal conversion technologies.

Several studies have been conducted which indicate various techniques for reducing the amount of energy consumed by residential and/or commercial buildings. In addition, the Annual Cycle Energy System has been developed and demonstrated, and efforts are being made to get it commercialized.

### Coal technology

According to Postma the coal technology research programs at the Laboratory have grown from a budget of a few hundred thousand dollars last year, to an anticipated budget of from \$6 to \$8 million per year by the end of this year. Involvement by ORNL ranges from the operation of a new experimental hydrocarbonization reactor designed to produce higher yields of clean liquids, gases and char from coal; to computer-generated pictures and data to assess the environmental effects of strip mining; to an interdisciplinary effort in the life science disciplines related to coal conversion.

ORNL is playing a major role in technological development for the national controlled thermonuclear research program. Budget for the fusion program at ORNL is now approximately \$20 million. Current plans are to build a new device, ORMAK Upgrade, to replace ORMAK. This facility will have twice the present plasma current and eight times the present injection power of ORMAK.

### Other achievements

Among other significant laboratory achievements cited by Postma were:

- Development of a low-swelling alloy for application to the liquid metal fast breeder reactor, which could produce a savings by ERDA of approximately \$20 billion;
- Publication of the first electron micrographs showing the "string of beads" structure of chromatin, which contains DNA and its associated proteins;
- Development of a new type of molecular spectroscopy, using a laser to detect extremely small quantities of atoms in metals;
- Creation of a vaccine for hepatitis-B, the most dangerous form of hepatitis, by scientists at ORNL's satellite laboratory in Rockville, Md.;
- Two studies of the social impacts



STATE OF LAB — Herman Postma, Director of Oak Ridge National Laboratory, is shown during his presentation of the annual "State of the Laboratory" address.

on communities where nuclear power plants will be constructed;

- Development of new neutral beam technology for the ORMAK;
- Discovery of the cause and effective prevention of cracking in molten salt reactor materials;
- Discovery that finely ground coal can be used to filter out solids in the coal liquifaction process, resulting in an approximate savings of as much as \$16 million a year for a large liquifaction plant; and
- Discovery that fluidized beds of coal particles are more effective in removing carcinogenic and other toxic substances from waste streams than industrial sludge ponds.

Postma's address included names of numerous individuals and groups whose efforts accounted for the "solid record of significant achievement by the Laboratory both in its traditional areas of nuclear research and development and in many newer, non-traditional areas on which the nation will depend greatly for its future well-being."

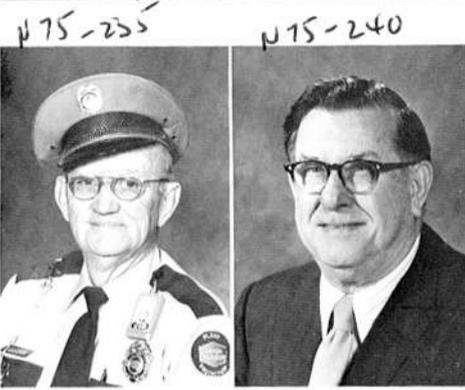
## Fixed Income Fund interest up again

Participants in the Personal Investment Account of the Savings Plan will receive an increase in the effective annual interest rate for their investment in the Fixed Income Fund for the calendar year 1976. The rate is being increased to 8.85% from the 8.55% which was paid during 1975.

This new rate will apply to all money in the Fund, not just to new money added during the year.

It was announced earlier that the rate in 1977 and 1978 cannot be less than 8.55%, although, as in 1976, it could be higher.

While there can be no assurance that interest rates will remain at these levels over the long term, the Fixed Income Fund with its guaranteed principal and interest rates does appear to continue to be an attractive investment medium.

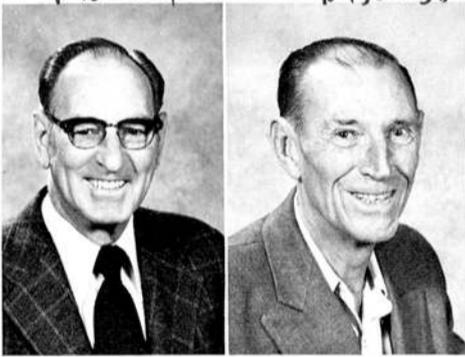


T. H. Allison J. P. Dillard

Many Y-12ers will retire at the end of December, most of them marking long careers with Union Carbide.

Thomas H. Allison, guard department, came aboard in 1944. He lives at 109 Regent Circle, Oak Ridge.

James P. Dillard, general field shops, lives at Route 15, Wilnoty Drive, Knoxville. He came to Y-12 in 1944.



R. V. Foltz G. T. Halmontaler

Russell V. Foltz, Engineering Division, has more than 28 years' company service. He lives at 155 Northwestern Avenue, Oak Ridge.

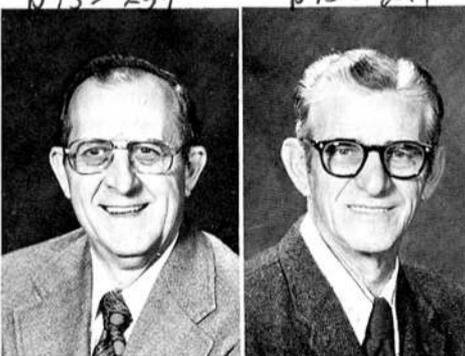
Guy T. Halmontaler lives at 582 West Outer Drive, Oak Ridge. Retiring from research services, he has 23 years' company service.



C. W. Hawkins O. L. Kelley

Carl W. Hawkins, machine maintenance, has almost 31 years with Union Carbide. He retires to his 229 Hillside Road, Oak Ridge, home.

Ollie L. Kelley, electrical and electronics department, came here in 1957. He lives at 333 Heywood Avenue, Knoxville.



J. A. Lewis L. A. Morris

Jesse A. Lewis, 123 Briar Road, Oak Ridge, retires with more than 28 years' service. He worked in the materials shop.

Lonnie A. Morris, mechanical inspection, joined Union Carbide in 1948. He lives on Highway Drive, Clinton.

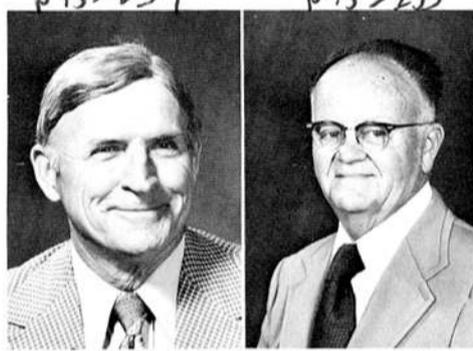
# Division Retirees



W. W. Patterson A. A. Pierce

Wynetta W. Patterson, cashier in Y-12's cafeteria, leaves with more than 28 years' service. She lives in Wartburg.

Arthur A. Pierce, guard department, joined Y-12 in 1944. He lives at 7749 Majda Vale Circle, Powell.



H. G. Richards F. A. Ruckart

Hugh G. Richards, 804 Brown Avenue, Kingston, retires from Y-12's general shops. He has more than 24 years' company service.

Frederick A. Ruckart, 1500 Mingle Avenue, Knoxville, worked in the guard department. He has more than 32 years' service.



J. D. Silver A. F. Smelcher

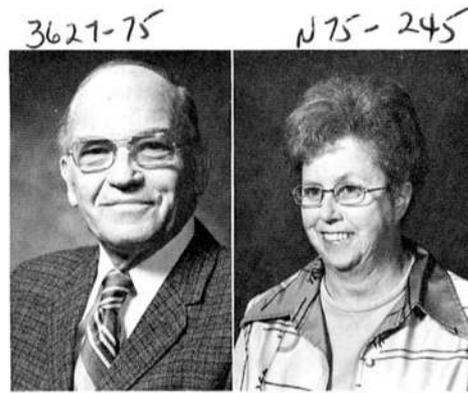
J. D. Silver, who will retire at the end of February, lives at Route 5, Clinton. He joined the Y-12 force in 1944 and works in research services.

Arthur F. Smelcher, Route 18, 7201 Ball Camp Pike, Knoxville, is in machine maintenance. He retires with more than 27 years' service.



L. A. Taylor

LeRoy A. Taylor, Route 1, Lenoir City, is a general foreman in the Fabrication Division. He has more than 24 years' Union Carbide service.



G. D. Adams H. R. Clark

Seven long-time employees are among Oak Ridge National Laboratory staff members who will retire December 31.

George D. Adams, a welder in Plant and Equipment Division, will take early retirement after 23 years' company service. Adams makes his home at 104 North Walker Lane, Oak Ridge.

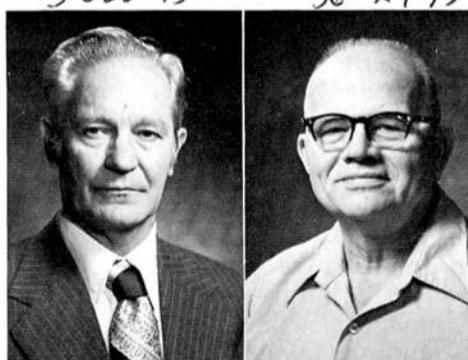
Helen R. Clark, a chemist in Chemical Technology Division, has been with Union Carbide since 1952. Following her early retirement she will marry Harry E. Childs January 1, and the couple will make their home at 1875 North First Avenue, Upland, Calif.



G. B. Ellison C. W. Gullett

Geraldine B. Ellison will take early retirement from her position as a secretary in Biology Division. An 18-year Carbide employee, she lives on Gallaher Ferry Drive, Lenoir City.

Curtis W. Gullett will end 26 years' company service with early retirement. He is a millwright in Plant and Equipment Division. His home is on Windswept Lane, Kingston.



J. H. Long C. L. McGinnis

Johnnie H. Long, a carpenter in Plant and Equipment Division, will take early retirement. The 29-year Carbide veteran lives at Route 1, Lenoir City.

Coy L. McGinnis will retire after nearly 32 years with Union Carbide. A machinist in Plant and Equipment Division, he lives at 169 North Purdue, Oak Ridge.



L. C. Templeton

Lester C. Templeton, a research associate in Solid State Division taking early retirement, joined Union Carbide in 1947. His home is at 461 East Drive, Oak Ridge.



M. S. Ledford T. O'Daniel

Three long-time employees at Oak Ridge Gaseous Diffusion Plant retire at the end of December, and another one will retire at the end of January.

Mary Sanders Ledford, Fabrication and Maintenance Division, joined Union Carbide in 1947. She lives at 1206 East First Avenue, Lenoir City.

Thomas O'Daniel, who will retire at the end of next month, lives at Route 3, Athens. An employee in grounds maintenance, he joined Carbide in 1944.



C. Sills C. H. Williams

Charles Sills, Operations Division, joined Union Carbide in 1944. He lives at 109 Vienna Road, Oak Ridge.

Charles H. Williams, Operations Division, lives at 314 Delaware Avenue, Oak Ridge. He joined Union Carbide in 1945.

## SEAL LEAKS — SAVE ENERGY

Leaks and holes can be anywhere in your house or apartment. Look at windows, walls, ceilings and roofs. If you find holes, seal them up.

Check for broken or cracked glass. If the glass is broken, put a new piece in with putty. Be careful to remove the old glass with gloves or a cloth, so you don't cut yourself.

Sometimes it's easier to patch the glass if the hole is small or the glass is just cracked. "Freezer tape" criss-crossed over the hole or taped along the crack works just fine.

The next issue will be dated January 8. The deadline is December 31.

# Wise Owl Club memberships earned by Plant and Equipment employees

3535-75



Two members of Oak Ridge National Laboratory's Plant and Equipment Division have been awarded membership in the Wise Owl Club, one for the second time.

H. Ray Hubbs, a pipefitter in the building and utilities department, and James W. Fox, a pipefitter in research services east, received their membership awards December 4 from Plant and Equipment Division Superintendent Harry E. Seagren. Hubbs, who received his first membership in 1965, is the first Plant and Equipment employee to hold double membership.

The Wise Owl Club is sponsored by the National Society for the Prevention of Blindness to recognize safe work performance. To qualify for membership, an employee must have avoided eye injury in an on-the-job incident by wearing safety glasses.

Hubbs earned his second membership in an incident which occurred as he was tightening bolts on a cast iron fitting after replacing a leaking gasket. The fitting broke, allowing steam to escape.

Hubbs was struck in the face by particles of rust and debris from inside the pipe and by particles of insulation from around the outside of the pipe. Because he was wearing safety glasses, none of the particles entered either eye.

Safety glasses saved Fox's eye from serious injury when he was installing piping for an experiment. As he stepped from a wooden scaffold to a steel platform below, the right lens of his safety glasses struck the open end of a one-quarter-inch stainless steel tube. The eye was blackened but not permanently damaged.

Hubbs and Fox are the twenty-eighth and twenty-ninth members of Plant and Equipment Division to receive Wise Owl Club membership.



3536-75

**PLAQUES FOR EYE SAFETY** — Harry Seagren, director of ORNL's Plant and Equipment Division, presents plaques of membership in the Wise Owl Club to division employees James W. Fox (in photo above) and H. Ray Hubbs. Both men earned membership when they escaped serious eye injury in recent incidents by wearing safety glasses. Hubbs now holds double membership, having received his first in 1965.



### ORGDP

**CAR POOL** members from Knoxville to any portal, D Shift. Bill Jones, plant phone 3-3367, home Knoxville 687-7284.

**RIDERS** from West Knoxville to any portal, straight day. Arthur Vance, plant phone 3-3258.

**RIDERS or DRIVERS** from East Drive, Oak Ridge, to Portal 5, D Shift. W. H. Bullins, plant phone 3-3067, home phone, Oak Ridge 483-7233.

**JOIN or FORM** car pool from South Knoxville to Portal 4, but will accept other portals, 8 to 4:30, John R. Ross, plant phone 3-3267, home phone Knoxville 577-0692.

**NINE RIDERS** from Maryville via Friendsville and Lenoir City, to Portal 2, 4 or 7, 8-4:30 shift. Paul Hurst, plant phone 3-9207.

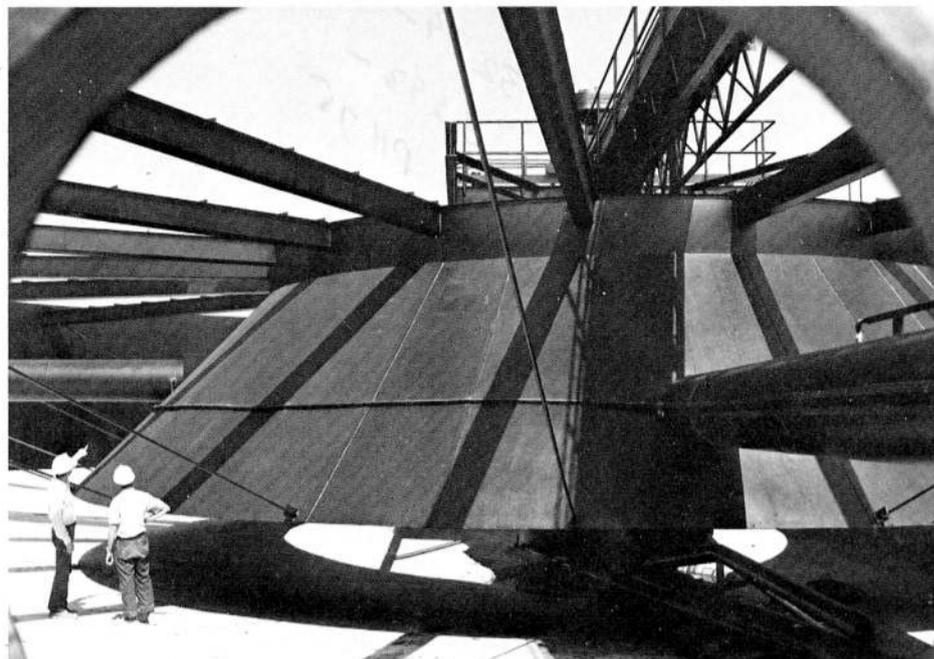
**RIDE or WILL JOIN CAR POOL** from Lake City area to Portal 2, straight day. James Woodward, plant phone 3-3686, home phone, Lake City 426-2189.

**RIDE or WILL JOIN CAR POOL** from area of Oak Ridge Hospital to Portal 3. John Hart, plant phone 3-3351, home phone, Oak Ridge 483-6772.

**RIDE or WILL JOIN CAR POOL** from South Knoxville to Portal 3, D Shift. Robert Johnson, plant phone 3-9291, home phone, Knoxville 577-6220.

### Y-12 PLANT

**RIDE** from Vista Drive, Clinton, to West Portal, straight day. Steve Porter, plant phone 3-5081, home phone, Clinton 457-5376.



4732-1

**GEOMETRIC ART** — The unusual size and geometry of this waste clarifier at the Paducah Gaseous Diffusion Plant provided the opportunity for photographer J. B. McGinnis to exercise his artistic creativity.

# Paducah plant builds liquid waste facility

A Liquid Waste Treatment Facility, designed to collect and treat up to 5,000,000 gallons per day of cooling tower water waste and up to 3,000,000 gpd of other miscellaneous liquid wastes, is under construction at the Paducah Gaseous Diffusion Plant with completion scheduled for July, 1976.

The treatment process will control thermal pollution and pH and will reduce concentrations of chromate, zinc, copper, oil-grease and suspended solids to levels that comply with new federal standards for discharge of liquids into receiving streams.

A network of underground piping and lift pumps will route the cooling tower blowdown water and other waste water streams to the central treatment facility. The term "blowdown water" refers to water which must be removed from the cooling tower because of its high suspended solid content caused by evaporation, just as a kettle of water left on a hot stove becomes more concentrated in minerals because much of the original water has turned to steam. To maintain cooling tower efficiency, a certain amount of blowdown water from the cooling system is discharged periodically and makeup water is added.

The treatment facility includes the following:

- Equipment for storage and feeding sulfuric acid, chemical lime, ferrous sulfate and coagulant aids.
- A 124-ft. diameter clarifier with a 15-ft. side water depth. The function of the clarifier is to remove precipitates formed in the chemical treatment process by coagulation and sedimentation. The precipitates are collected on the bottom of the clarifier and discharged to the sludge lagoon.
- A pre-neutralization tank that mixes a lime slurry with the treated waste stream prior to entering the clarifier.
- A 12-acre tract that includes a 26,000,000-gallon full flow lagoon and a sludge lagoon.
- A Chemical Feed Building that includes chemical feed equipment, a control room and a small control laboratory.

After the waste water has passed through a reduction and precipitation process, it will be discharged into the 26,000,000-gallon lagoon where it will have a six to eight day residency for settling before being released to the natural stream system.



4732-2

**SETTLING LAGOON** — A 26,000,000-gallon capacity lagoon has been constructed at PGDP as part of the new Liquid Waste Treatment Facility.

**NUCLEAR DIVISION NEWS**

**UNION CARBIDE**

UNION CARBIDE CORPORATION  
NUCLEAR DIVISION

James A. Young, Editor  
Ext. .... 3-7100

Ruby Miller, Assoc. Editor  
Ext. .... 3-6421

Keith Bryant, Paducah  
Bell ..... 369

Doug Carter, ORGDP  
Ext. .... 3-3434

— Member —

INTERNATIONAL ASSOCIATION OF  
BUSINESS COMMUNICATORS

Office  
Post Office Box Y  
Oak Ridge, Tenn. 37830



MAGIC MOODS — The Magic Moods of Christmas was the theme of the dance for Oak Ridge Gaseous Diffusion Plant employees. Above some of the happy holiday celebrants gather at the Oak Ridge Civic Center to hear the music of the Blackwater outfit.

## RECREATION NOTES

### ORGDP BOWLING

The All Stars stay five and one-points ahead of the City Slickers as the two teams out-distance almost all contenders in the Tuesday League. M. S. Ginsburg topped scratch rolling early in December, with a 222 game and a 562 series. Joe Vogt took a 258 single in handicap tally, with a 626 series.

The Wednesday League sees the Amps four ahead of the Sues Sooners and Hi-Rollers. Roy Dukes posted a high game of 253, a series of 632 early in the month.

The Uptowners are five and one-points ahead of the Payoffs in the Women's League. Sue Davis rolled a good series recently, sharing honors with Elaine Griffies and Patsy Martin.

### ORNL BOWLING

It looks like the Mousechasers have a lock on the ORNL Ladies League top spot, 12 points ahead of the Spinners. Lou Gunnels rolled a 230 game, 601 series in handicap scoring early in December.

The Remkeys and Pin Heads paired for a roll-off recently in the C League to determine first half winners. The

Alley Rads' J. W. Moore rolled a 654 handicap series to pace bowlers recently.

The Carbide Family Mixed League still places the Oops team on top, with a small lead of only two points.



### Y-12 BOWLING

The Rebels ride high in the Classic League, three points in front of the Ridgers. Look at high series for men recently. ... Bill Reynolds, 711; Ronnie Vowell, 701; and John Bryan, 688! High handicap game still belongs to Ken Valentine, with a 281.

The Y-12 Mixed League began its second half before the holidays, as the Rollers took the crown for the first half ... then will face winners of the second half for the league crown.

In the C League it's still the Rounders, three ahead of the DLM Used Cars. High series belong to Edd Sise, 690; and John Patton.



### OAK RIDGE CHAMPIONS!

A team of Y-12 bowlers capped the

city tournament recently, topping other Oak Ridgers on the maples. The Ridgers — made up of C. R. Lively, Billy Patrick, George McPherson, Joe Morgan, all of the guard department, and Ray Smith, property — rolled a 2969 score which took tournament laurels. For their efforts the Ridgers took top cash prize, a free entry in the state tournament and a trophy the size of a totem pole!

Bill Ladd, who surely must qualify for Carbide's Hall of Fame for bowlers, easily took the individual crown in rolling in the city tournament. His 1770 was tops among bowlers, giving him all the laurels again!



### VOLLEYBALL LEAGUES

Latest standings in the Volleyball Leagues, with action hot during the last weeks, show the Skinks and Ball Busters tied for first place and the Rad-Fizz combo on top in the second league, and the Diggers on top in the third one.

League standings follow:

CARBON LEAGUE		
TEAM	WON	LOST
1. The Skinks	33	6
1. The Ball Busters	33	6
3. Hawks	26	10
4. The Group	25	17
5. Gauss House Gang	23	16
6. Sud Soakers	20	19
6. Odds & Ends	20	19
8. "Are You Sure"	15	24
9. The GLCA Students	12	30
10. The Smashers	5	37
11. Rinkey Dinks	7	35

NUCLEAR LEAGUE		
TEAM	WON	LOST
1. Rad-Fizz	18	3
2. Pogo's	19	8
3. Over-The-Hill Gang	17	7
4. Artie's Army	14	10
5. Computes	15	12
6. Maxwell Demons	10	17
7. Sloths	9	15
7. Lucky Spikes	9	15
9. Wolfpack	0	24

ATOMIC LEAGUE		
TEAM	WON	LOST
1. Diggers	26	1
2. Taxi Squad	31	2
3. Quarks	23	10
4. Sportsmanship	13	14
5. Ecomen	13	17
6. Old Men	11	22
7. Shooting Stars	3	27
8. Electric Bananas	0	27
(Dropped)		



## Titrating your Christmas cheer

by T. A. Lincoln, M.D.

The holiday season is a time of frequent imbibing, ostensibly to promote Christmas cheer. The season no doubt promotes "a very merry, dancing, drinking, laughing, quaffing, and unthinking time." Still, if you plan to drink, pause a moment now to consider a little pharmacology before the revelry begins. It may help you titrate your merriment to a safe end point.

Of great importance is the increasing awareness of the interaction of alcohol with a number of drugs. When alcohol is combined with sedatives, tranquilizers, antidepressants and antihistamines, it can lead to severe central nervous system depression, coma, and even death. Anyone on these medications should not drink; or if they do, they should be extremely careful.

Acute intoxication with alcohol can depress the normal metabolism of drugs in the liver. As a consequence, a normal dosage of a drug can become excessive. On the other hand, chronic alcoholism may lead to increased metabolism of some drugs and thereby reduce their therapeutic effect.

### Drugs' effectiveness changed

Individuals on anticoagulants ("blood thinners") can have an enhanced effect and possibly bleeding if they consume a large amount of alcohol. Patients subject to convulsions need to be careful because excessive consumption can lead to decreased effectiveness of their anti-convulsant medication. Antibiotics sometimes produce an Antabuse-like effect after drinking. There can be abdominal cramps, vomiting, confusion and even psychotic episodes.

Diabetics who take hypoglycemic tablets such as Orinase, Diabinese, DBI or Meltrol can also experience Antabuse-like effects or decreased or increased drug action. Patients with peptic ulcers should be careful if they take a lot of Alka-Seltzer or aspirin for a hangover since the likelihood of gastrointestinal bleeding is greater after drinking.

Violence is a common accompaniment of acute alcohol intoxication. In Dade County, Fla., where Miami is located, a 12-year study revealed that 65 percent of homicide and 38 percent of suicide victims had enough alcohol in their blood to grossly affect their judgment. No report was given on alcohol content in the blood of the killers in the homicide study, but irrational anger is often released under the influence of alcohol.

### Prolonged drinking worst killer

The role of alcohol in causing accidents is well known. In the Miami study, 70 percent of drivers killed in a single-car accident had been drinking. However, in 78 percent of these, the blood alcohol level was more than 0.10 percent, an amount that is infrequently reached during

ordinary social drinking. The most dangerous driver is the chronic alcoholic who is driving home after prolonged drinking at a neighborhood tavern.

Alcohol can have an adverse effect on your holiday love life! In a study in Finland, male students aged 19 to 25 volunteered to receive enough alcohol (1.5 grams per kilogram of body weight as a 20 percent solution over a three-hour period) to make them severely intoxicated. The experiments began at 6 p.m. The next morning the alcohol had been metabolized, but they had severe hangovers. Blood testosterone (the male sex hormone) levels were determined before, during and after the drinking. The researchers found a consistent depression in the testosterone level during the hangover period and longer. It appears, therefore, that excess alcohol depresses a man's sex hormone level and thereby probably greatly reduces his interest in making love!

### "Hair of the dog"

One study that is a little hard to explain was done in Sheboygan, Wis. A barroom myth says that the best treatment for a hangover is a stiff shot of whiskey. It is called, "some of the hair of the dog that bit you." Dr. James Hoon gastroscopied two patients who had severe hangovers. He found their stomachs disturbed and jumpy with considerable excess mucus. The scope was removed, and one patient was given one and one-half ounces of gin and the other the same amount of whiskey. The scope was reinserted and the stomach was much calmer in both cases.

Beautiful full color photographs which appeared in the *Journal of the American Medical Association* article documented the author's description. Two patients certainly don't make a case for the "hair of the dog" treatment, but it is possible that the temporary calming of the jittery stomach was due to the alcohol's known sedative effect. The author carefully did not mention how the subjects felt a couple of hours later!

The basic recommendations on Christmas cheer need to be repeated. Ideally, if you drink, you shouldn't drive. Since that advice will probably fall on deaf ears, taper off early so the maximum effect hits you before you leave the party. Remember that a taxi ride is far cheaper than a DUI charge or a wrecked car. Have some food rich in sugar or honey and some strong coffee before you leave. Drive slowly, with at least one passenger to talk to in order to stay awake.

The price of a bad titration with an alcoholic beverage can be a miserable hangover, a cracked skull or a wilted amour. The reward for discretion can be a safe and happy holiday season.



**THERMAL RATCHETTING SPECIMEN** — Jim Corum and Tom Hill, ORNL Reactor Division, examine a thermal-ratchetting test specimen which will be encapsulated in a furnace and subjected to repeated thermal down-shocks (e.g., from 1000°F to 700°F at a rate of 30°F/sec) in the Thermal Transient Test Facility. The strain gauges on the pipe will measure distortion of the specimen in response to the shock of the radically changing sodium temperatures. Data from such tests are expected to aid designers of components for the liquid metal fast breeder reactor, who must assure that the reactor systems are built to accommodate changing sodium temperatures during reactor startup and shutdown.

## QUESTION BOX (Continued from page three)

**QUESTION:** Traffic exiting from Portal Five at ORGDP is held up by a relatively few who are going left to cross the one-way bridge on Blair Road. We are badly in need of a right turn lane for cars going toward the Turnpike. There is probably room already there for a lane if the existing road were simply divided three ways with new lines painted. Has this been considered?

**ANSWER:** Supervision in ORGDP's Buildings and Grounds Department has looked into the possibility of dividing the existing road outside of Portal Five into three separate lanes as you suggested. They concluded that the road is not wide enough for an additional lane.

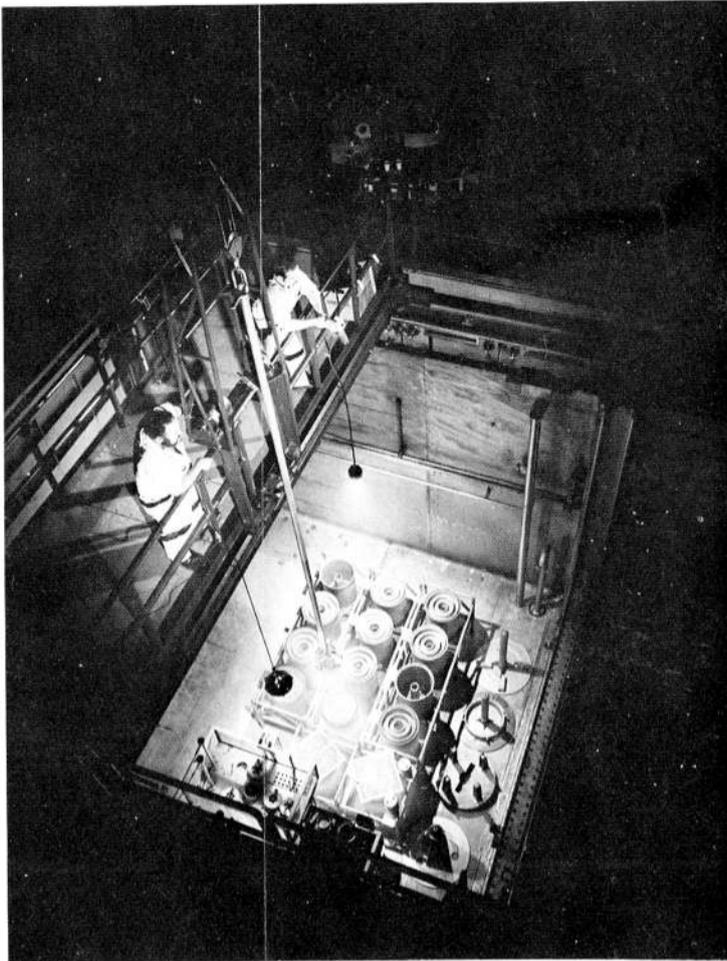
As previously stated in an earlier answer, ORGDP management does not believe employees are being inconvenienced to the point that an additional lane can be justified.

**QUESTION:** In the interests of cutting down fuel consumption, air pollutants, noise and congestion, why doesn't management encourage the use of interplant bicycles for errands in ORGDP? I have heard it's because of accidents, but I never heard of any in the plant.

**ANSWER:** The policy on the use of bicycles in the plant was considered by the ORGDP Safety Steering Committee on May 16, 1974, when they agreed to prohibit the purchase of bicycles for use outside buildings, because of the increased hazard exposure to the riders. Bicycles were approved for use inside the Cascade Buildings.

A number of incidents involving bicycles have occurred at each of the four UCC-ND installations. The most recent was a lost-time injury on August 27, 1975, when an employee lost control of a bicycle on which he was riding and fell off, striking his knee on a concrete surface. He sustained a fractured knee and lost approximately two months of work.

The ORGDP expansion program has resulted in more congestion and heavier traffic flow. Therefore, due to the hazards created by the accelerated construction activities and the increased motor vehicle traffic within the plant (trucks, cars, mobile heavy duty equipment, forklifts, tow motors, straddle buggies, etc.), it is the opinion of plant management and safety personnel that any additional use of bicycles at this time would jeopardize the safety of the people riding them.



**PRIZE-WINNING PHOTOS** — Oak Ridge National Laboratory photographers Donald R. Dudenbostel and James B. Richmond received multiple honors at the 1975 Tennessee Professional Photographers Association Convention. Among their prize-winning entries were the photos above. On the left is Richmond's photograph of a coal gasification experiment being conducted at the Laboratory; the right-hand photo, made by Dudenbostel, shows fuel reloading at

the High Flux Isotope Reactor. Both prints were made in color for the Convention's print competition. Dudenbostel received a trophy for Best of Show and ribbons for two First Awards of Excellence and four Second Awards of Excellence. Richmond received ribbons for First and Second Awards of Excellence. Both men, members of the photography department in ORNL's Information Division, were awarded plaques of membership in the Court of Honor.

## Division Death

James McPeck, instrument fabrication department at the Oak Ridge Gaseous Diffusion Plant, died December 8 at the Loudon County Memorial Hospital. He had been at ORGDP almost 30 years.



**Mr. McPeck**

He served in the armed forces before joining Union Carbide in 1945.

Survivors include his wife, Mrs. Henrietta Schrimpsner McPeck, Route 3, Loudon; brothers, Albert and Fred McPeck; and a sister, Gladys McPeck.

Funeral services were held at the Hawkins Funeral Home Chapel with the Rev. Frankie B. Kagley officiating. Interment followed in the Loudon County Memorial Gardens.

## PATENTS GRANTED

To Cressie E. Holcombe and George L. Powell, both of the Y-12 Plant, for "Method for Preparing Thin-Walled Ceramic Articles of Configuration."

To William J. Hulsey, Y-12 Plant, for "Method for Treating Reactive Metals in a Vacuum Furnace."

To George I. Cathers and Calvin J. Shipman, both ORNL, for "Volatilization of Iodine from Nitric Acid Using Peroxide."

## Nuclear Division men aid welding workshop

An advanced welding and brazing workshop was staged in Chicago recently by the Society of Manufacturing Engineers and the Energy Research and Development Administration. Union Carbide and Argonne National Laboratory assisted in planning and presenting the workshop.

Y-12er Paul W. Turner was a co-chairman for the three-day discussions. Melvin E. Koons and Austin M. Read, Industrial Cooperation Program for the Nuclear Division, were administrative committeemen.

David P. Edmons, Oak Ridge National Laboratory, presented a paper on the "Development of Automate Pipe and Tube Welding Techniques for Aluminum." Gene M. Goodwin, also of ORNL, gave a paper on "Advances in Stainless Steel Welding for Elevated Temperature Service."

Jimmie L. Irons, Y-12, presented a paper on "Cold Welding Aluminum Tubing," and Larry M. Greene, also of Y-12, gave one on "X-Ray Monitor for Controlling Penetration in Electron-Beam Welds."

George M. Brandon, Y-12, presented a paper on the "Influence of Pressure Variation on Penetration of Electron Beam Welds." Donald G. Scott, Y-12, gave two papers on "Electron-Beam Filament Specification and Gun Contours," and "Joint Design for Welding Thin Materials."

In addition to the technical part of the program, there were many interesting displays of technology and plant capabilities.

## TURN DOWN THERMOSTAT

When you leave the house, even for a few hours, turn the heat down. If you're away for several days, lower your heat to about 50 degrees. When you return, it will take awhile to warm up the house again. Try to schedule unpacking or housework for these times, so you don't have to turn the heat up past its usual setting. Let the house reheat slowly: quick heating wastes some of the fuel and money you saved while away.

## COMPANY Service

20 25 30

### PADUCAH 30 YEARS

B. T. Brooks, plant records.

### 25 YEARS

Reynolds A. LeDoux Jr.

### ORGDP

### 30 YEARS

Jack W. Arnwine, janitors department; Albert A. Roberts, U-235 separation department; Allen W. Boles, building maintenance department; Riley Underwood, shop services department; and William R. Johnson, guard department.

### 25 YEARS

Harold E. Alexander, Glenn B. Brooks, George P. McKeethan, Elbert J. Asbury Jr., Carl D. Delph, Tracy M. Kegley Jr., Joyce P. Smith and Sarah L. Horne.

### 20 YEARS

David B. Allen and James M. Hackworth.

### GENERAL STAFF

### 30 YEARS

Rufus W. Keck, General Accounting Division; and Harold H. Abee, General Industrial Relations Administration.

Peterson, Robert S. Chambers, Charles E. Davis, Charles G. Treece and David R. Allison.

### 25 YEARS

George W. Wylie.

### Y-12 PLANT

### 30 YEARS

Dillard D. Spangler, building, grounds and shop maintenance; and Willie S. Arnold, electrical and electronics department.

### 25 YEARS

Charles H. Oaks, Harold B. Smith, Raymond F. Phillips, Murray A. Parrish, Paul E. Trent, Andrew S. Peterson, Robert S. Chambers, Charles E. Davis, Charles G. Treece and David R. Allison.

### 20 YEARS

James H. Jones.



## UNION CARBIDE CORPORATION

NUCLEAR DIVISION  
P. O. BOX Y, OAK RIDGE, TENNESSEE 37830

BULK RATE  
U.S. Postage  
PAID  
Union Carbide  
Corporation

ADDRESS CORRECTION REQUESTED

