

## Paducah precipitators reduce SO<sub>2</sub> emissions

Two electrostatic precipitators are being installed at the Paducah Plant to control stack emissions from the facility's coal-fired steam plant. The first precipitator is scheduled to be operative this month and the second by February, 1979.

The plant's three boilers have a combined capacity of approximately 300,000 pounds of steam per hour. Two of the boilers are presently fired by pulverized coal, and the third is fired by natural gas or oil.

Several years ago, the coal-fired boilers were converted to gas which reduced environmental emissions, but were later converted back to coal due to natural gas shortages. All three boilers are capable of using oil as fuel.

The steam plant modification represents a capital outlay of approximately \$4 million, about half of which is for precipitator installation. Planning for the project was begun in 1974 and was budgeted by DOE in 1976.

Steam is required not only for space heating but also for the plant's uranium enrichment process.

Standards issued by the Kentucky Department of Natural Resources and Environmental Protection limit the emission of particulates to no more than 0.24 pounds per million BTU input. "The precipitators we are installing are designed to control emissions at a level of 0.1 pounds of particulates per million BTU heat input," said Clark Conrad, engineer in the plant's Environmental Control Department.

### Beyond standards

This level is equivalent to the state's New Source Performance Standards, which are not applicable to existing facilities such as Union Carbide. "In effect, we are going beyond what is required of us," he commented.

The emission of sulphur dioxide (SO<sub>2</sub>) from the plant's steam operation is limited by state regulations to 1.2 pounds per million

BTU heat input. This level is dependent on the size of the source and the county where it is located. The proximity of large coal-burning power plants results in considerably stricter environmental regulations in McCracken County than in neighboring counties.

In order to comply with state SO<sub>2</sub> regulations, the plant is using coal with a sulphur content of 0.7 percent. Yearly consumption approximates 45,000 tons. Using the low-sulphur fuel requires specially designed high-efficiency precipitators, therefore increasing the size and cost of the equipment.

### Monitor other effects

The technical specialists who make up the plants' Environmental Control Department also monitor possible environmental effects of effluents on water, vegetation, sediment and wildlife in addition to air sampling and other selective testing. Results of the group's monitoring activities are published each year and are available from the National Technical Information Service.

"The diffusion process generates very few pollutants," Conrad explained. "Most effluents come from common industrial processes such as sewage and water treatment, equipment cleaning or steam production." All these systems are under continual surveillance, according to R. C. Baker, head of the Environmental Control Department. "A major concern is the planning of facilities and procedures for anticipated problems," he added, "for which standards are yet to be established."

## Corporate world of Union Carbide...

UNION CARBIDE CORPORATION has acquired the remaining 50 percent interest in Gulf Coast Olefins Company from Societe Financiere Europeenne Finance Company. Formed in 1975, GCOC produces ethylene and related products at Taft, La. UCAR Pipeline Incorporated, a wholly owned subsidiary of GCOC, owns and operates an ethylene pipeline system between Napoleonville, La., and the Texas Gulf Coast.

As a result of this transaction, GCOC has become a wholly owned subsidiary of Union Carbide. The company will retire all of its outstanding debt of \$292 million with funds to be provided by Union Carbide.

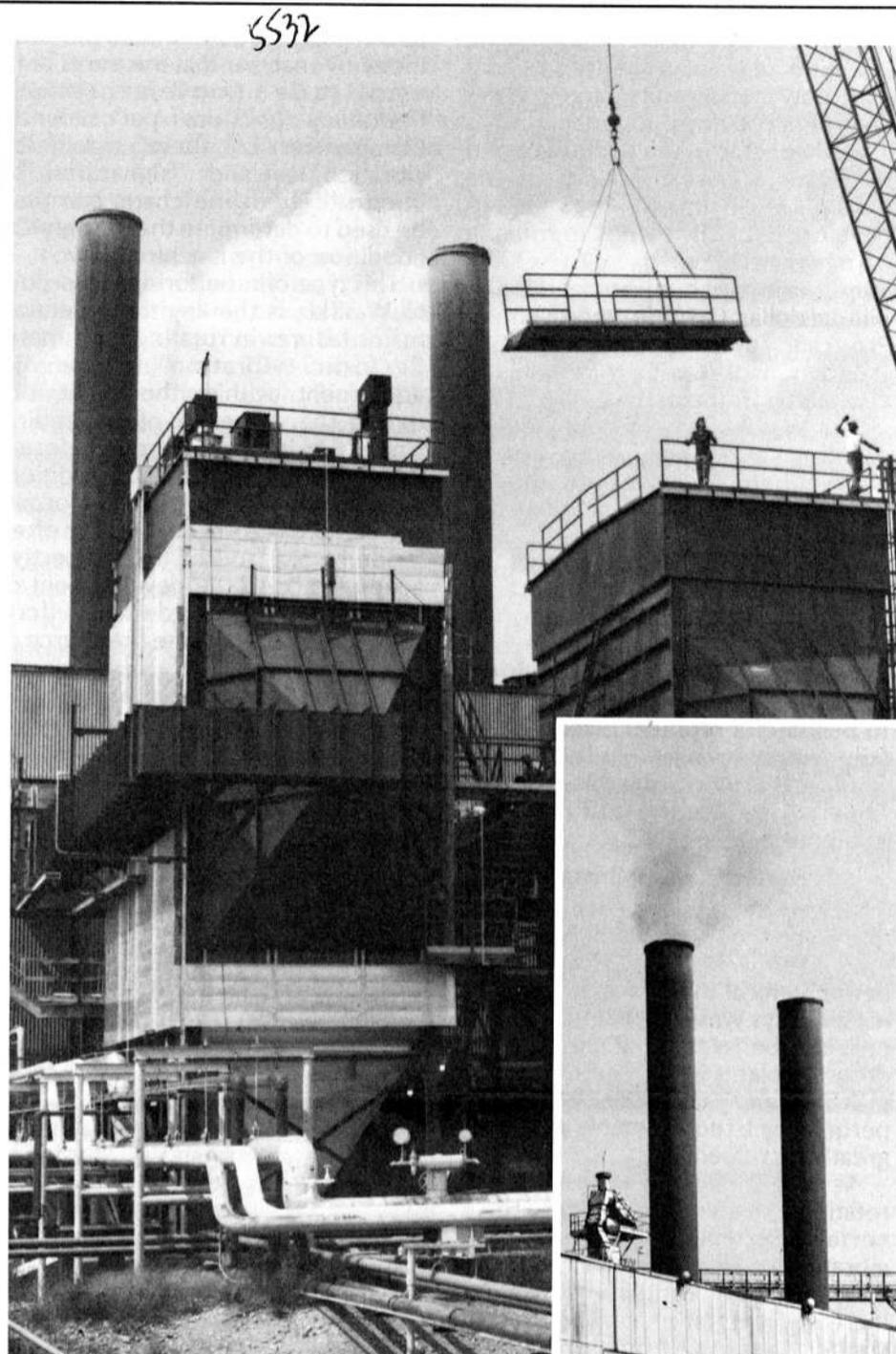
PLANS FOR A JOINT VENTURE dry cell battery plant in Kano, Northern Nigeria, have been announced by Union Carbide Corporation. The plant will be jointly owned by Union Carbide, Kano State Investment

Company and private Nigerian investors. It will employ several hundred people initially, virtually all of whom will come from the Kano area. The plant is expected to make a significant contribution to the economy of Northern Nigeria, and will enable that area to meet its domestic need for U-2 and "D" batteries.

## Vehicles, equipment featured in bid sale

A spot bid sale is in progress for used government-owned office equipment and vehicles. These items may be inspected from 8:10 a.m. to 4:10 p.m. through November 7, including Saturdays. The equipment is at the ORGDP Powerhouse area, Building K-722, located off State Route 58.

The sale will begin at 9 a.m. November 8.



**BEFORE AND AFTER**—Stack emissions from the PGDP steam plant have been almost eliminated by the installation of two electrostatic precipitators. (See photo inset for pre-precipitator emissions.) The emission of both particulates and sulphur dioxide meets standards set by the Kentucky Department of Natural Resources and Environmental Protection. Both precipitators are planned to be operative by February, 1979.

## Fixed income rate: nine in '79

The effective annual interest rate for the calendar year 1979 will be increased to 9.0 percent. This rate will apply to all money in the Fixed Income Fund, not just to money added during the year.

The rate for 1978 has been 8.85 percent.

In addition, Metropolitan guarantees that during the four-year period ending January 1, 1983, the effective annual interest rate will be not less than 8.6 percent. It may, of course, as in 1979, be higher.

More information is available through your Benefit Plans representative.

### Savings Plan—Personal Investment Account

	Fixed Income Fund	UCC Stock	Equity Investment Fund
December 76	13.0553	59.2723	8.8166
December 77	14.2017	40.9096	8.0427
July 78	14.9286	38.0276	8.6217
August 78	15.0351	40.6839	8.8425
September 78	15.1423	40.6270*	8.7728

\*38.9381 in Dividend Reinvestment & Stock Purchase Plan

Note: Fixed Income Fund unit values reflect interest additions to achieve the guaranteed effective annual interest rate of 8.85% for 1978. Union Carbide stock values are the average cost of stock purchased during the month plus brokerage charges. Equity Investment Fund unit values represent the month-end market value of securities held by the Fund. The price of each unit is determined by dividing the total value of the securities by the number of units in the Fund.

# Instrument 'listens' for early flaws in rotating equipment

One of the "newer" diagnostic tools in use at ORGDP measures the vibration of various centrifugal and axial flow compressors, large motors and other rotating equipment. Just as a family doctor uses a stethoscope to listen for abnormal sounds in the body, equipment has been developed for "listening" to rotating equipment and detecting abnormalities. It is all part of the \$1.5 billion dollar Cascade Improvement Program and Cascade Upgrading Program (CIP/CUP) that will be completed in the early 1980s.

Paul Wasilko, who is now the K-31 building supervisor, was heavily involved in the start-up of the vibration analysis program that was designed to detect mechanical abnormalities in the early stages so that corrective action can be taken before significant failures occur. The program was initiated by the Operations Planning Department about two years ago and has proved to be a useful problem diagnosis and failure prevention tool. This quality assurance activity, says Wasilko, will hopefully reduce the cost impact of equipment failures.

### Motors' tasks increase

Vibration analysis has been around for several decades and has been used extensively in the aerospace and petrochemical industries. It was only natural, says Wasilko, that this type of program be initiated at the gaseous diffusion plants where there are large motors and compressors whose performance requirements are being greatly increased.

As explained by Wasilko, all rotating machinery vibrates to a certain extent and changes in vibration levels are generally a result of mechanical imperfections. An increase in vibration can be used to signal trouble from imbalance, misalignment, bad bearings or loose parts.

### Compares levels

An accelerometer, which transforms vibration into electrical signals, is attached to a rotating piece

of equipment. Then raw vibration data is processed by either a vibration meter or analyzer that measures both amplitude (movement) and frequency (motions per second). Comparison of these machinery vibration levels or "signatures" to "normal" guideline charts can then be used to determine the mechanical condition of the machine.

This type of monitoring, according to Wasilko, is the key to preventing major failures in rotating machinery. Periodic vibration checks on equipment within the plant can detect the presence of impending trouble in its early stages—before a major failure occurs. In addition, when mechanical trouble does occur, the use of vibration analysis can often pinpoint the source for corrective action. Prior to the development of this technique, considerable efforts were required to locate the source of some problems.

### Continuous monitoring

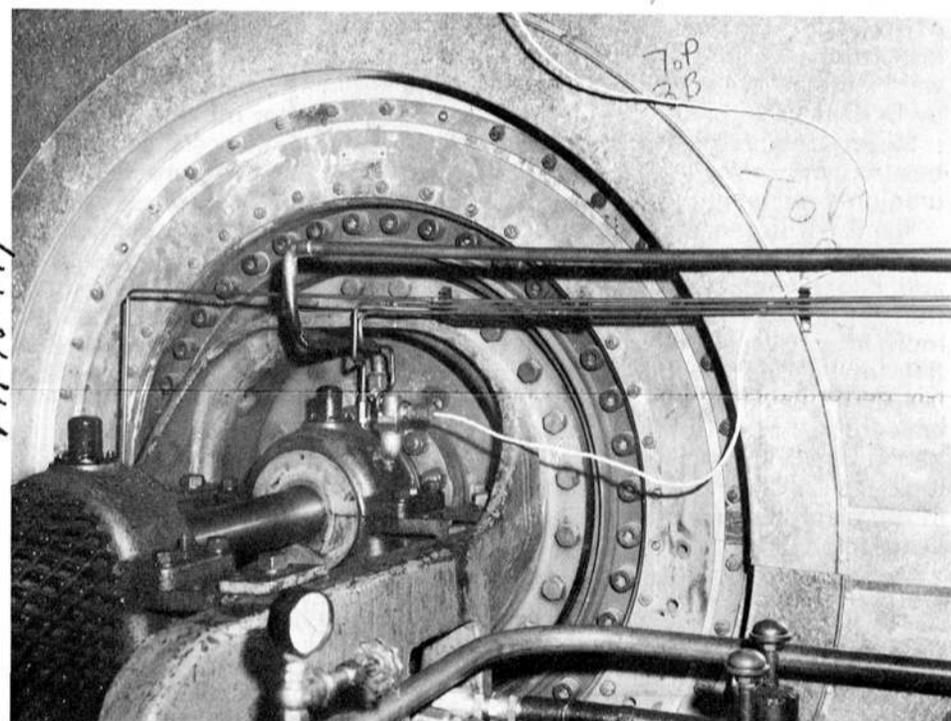
As part of CIP/CUP, the accelerometers will be attached to more than one thousand different pieces of equipment at ORGDP. The vibration signals will be processed by an Automated Data Processing (ADP) System. The ADP System will continually monitor the equipment vibration, as well as process temperatures, pressures, and horsepower, which have an effect on plant operations. Automatic shutdown protection is provided should vibration levels reach a critical level.

The initial test development was done using portable vibration analysis equipment that duplicates the capabilities of the future ADP equipment. Wasilko says the test equipment worked well and it is still used for diagnostic work and monitoring of equipment not covered by the automatic system.

The vibration analysis program has undergone extensive testing and this part of the Quality Assurance program makes the cascade operations more reliable and more cost effective.



**SIGNATURE ANALYSIS**—Interconnecting cable relays vibrating signals to test equipment for "signature analysis." The instruments duplicate what will be available when the ADP system is ready for service. Paul R. Wasilko "listens" for mechanical abnormalities in their early stages.



**IN ACTION**—A typical accelerometer is mounted to a lead bearing on a centrifugal compressor. Early detection of abnormalities make corrective action possible before significant failures occur.

## wanted...

### ORNL

ONE or TWO CAR POOL MEMBERS from Powell vicinity of Irwin Road and Beaver Creek Drive to East Portal, 8-4:30. Eugene Lamb, plant phone 3-6483, home phone 947-6037.

CAR POOL MEMBERS from Lovell Heights area, Concord, to North or West Portal, 8-4:30. Jerry Dixon, plant phone 3-1108, home phone 966-1232.

RIDE or RIDER from Windsor Court Apartments, Fountain City area to East Portal, 8-4:30. Brenda Hatchett, plant phone 3-6766, home phone 687-9413.

JOIN CAR POOL from East Village area, Oak Ridge, to West Portal, 8-4:30. Gary Puckett, plant phone 3-1516 or 3-0221, home phone 483-7116.

### ORGDP

RIDERS from East Village, Tennessee Avenue, Woodland, Garden Apartments area, Oak Ridge, to Portals 2, 3 and 4, 7:30-4:30. Wayne McLaughlin, plant phone 3-3541.

RIDE from Bearden area of West Knoxville, to Portal 2, 7-4:30. Sarah "Neal" Horne, plant phone 3-3800, home phone 584-0889.

## Energy tips...

As summer wanes, consider the advantages of installing awnings on the windows on the sunny sides of your house. When lowered during the day, awnings can reduce solar heat gain by as much as 80 percent.

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Plan to do as much cooking as possible in the early morning and late evening hours. This will reduce heat build-up in your home during the hottest part of the day, and will also help to shift utility demand to off-peak hours.

### Y-12

RIDE from Knoxville (Fountain City) to East Portal, days. Georgia Bower, plant phone 3-5698; home phone 687-8014.



## New face shield

Walter G. Whatley, a sheet metal worker in ORNL's Plant and Equipment Division, wears a new face shield as he works with a precision cutting saw. The mask is designed with a band across the bottom of the plexi-glass bubble that touches the operator's upper chest. The added length prevents metal chips from flying up under the safety mask and enables the operator to get closer for more cutting accuracy.

5094-78

PH 76-2883

PH 78-499

## 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.

### Unwanted vacation times

**QUESTION:** What good is an employee's vacation if he/she is forced to take it when he/she does not want it and does not need it?

**ANSWER:** The large number of vacations due and the necessity of having sufficient personnel present at all times to get the job done, make it necessary for a supervisor to schedule vacations. Unfortunately, this sometimes means that an employee does not get his/her vacation when it is wanted or has to take it at an undesirable time. We try to honor employees' choices to the extent possible. If you have a special problem, discuss it with your supervisor.

### Performance vs salary

**QUESTION:** The Corporation's statement of policy regarding compensation is to provide compensation levels and individual salaries which are comparable to those provided by the competition for employees of equivalent performance, required knowledge, skill and accountability.

I am a non-exempt salaried employee with 10 years in present job. I am at 92 percent of midpoint. My performance rating was 3/3 last year. Historically, the midpoint has been adjusted six to nine percent annually. In my job level of 92 percent and assuming present increases of eight or nine percent, while the midpoint is adjusted annually, I would never reach the midpoint of my salary range. I am sure that this situation is in conflict with Company policy. For example, good performance in a job rating would have most employees at 100 percent of midpoint or somewhat above. An adjustment in salary appears to be in order, does it not?

**ANSWER:** If you have been in your present job for 10 years and you have a "competent" rating, your pay following your 1978 increase should be in the job rate zone—that is,

between 96-104 percent of the midpoint. If you still have a question on this matter, you should discuss your situation with your supervisor and/or with your installation salary administrator.

### Personal time off

**QUESTION:** Personal leave has gotten more difficult to justify to one's supervisor. Why hasn't the Nuclear Division implemented, as have many large corporations, annual leave in lieu of vacation and personal leave? This would give employees, four, five, six, seven and eight weeks respectively, according to the number of years of service, with sick leave accruing as usual. I believe many more employees would appreciate this method much more than the one now in force.

**ANSWER:** Vacations are granted to permit an employee to relax from the job and hopefully to return more rested and better able to perform his/her assigned function. Absences due to personal reasons are granted for those situations not falling in the category of vacation time but of sufficient seriousness to warrant an excused absence. Personal time off, just like a disability absence, is not meant to be a guaranteed time to be absent. Such time off should normally result from a need and not merely a convenience.

Although the federal government has traditionally used annual leave in lieu of vacation and personal leave, we are not aware of a move by large corporations to implement this type of policy. At the present time we do not anticipate any change in the Company's vacation and personal leave policies.

### Amorous actions

**QUESTION:** What is Company policy concerning men and women employees becoming too amorous while at work?

**ANSWER:** We discourage it.

## NSA seminar set for November 18

The Oak Ridge Chapter of the National Secretaries' Association has set November 18 as the date for the "Success Seminar for Women in Business," their annual seminar for career secretaries and office personnel. The seminar will begin at 8 p.m. with a buffet breakfast at the Royal Scottish Inn, Oak Ridge.

Featured speaker will be Anita Reed of Dallas, Tex. Having been a secretary, a secretarial consultant to large corporations, and now the president of her own firm, Reed is experienced in the areas of career development and personal effectiveness.

Another highlight of the program will be presentation of Certified Professional Secretary (CPS) certificates to the nine successful candidates in the Oak Ridge area.

Reservations for the seminar may be made through November 10, with cancellations accepted through November 10. The fee is \$13. For reservations contact any of the following:

- |   |  |
|---|--|
| Y-12: <b>Janice Hughes</b><br>Building 9104-2,<br>extension 3-5577                | DOE: <b>Charmaine Henegar, CPS</b><br>DOE-ORG, Federal<br>Office Building<br>Safety Division<br>extension 3-4223 |
| ORN: <b>Bette Thomas</b><br>Building 4500S,<br>extension 3-1854                   | or <b>Emily Baer, CPS</b><br>Route 17, Emory<br>Knoxville<br>690-8618  |
| K-25: <b>Wyvetta Ralledge, CPS</b><br>Building K-1400, MS 361<br>extension 3-3206 |  |

## Seven promotions at Y-12

Seven promotions have been announced at the Y-12 Plant. Richard V. Fowler has been named a maintenance supervisor in the Maintenance Division; William L. Gaston and David E. Kitts process foremen in Metal Preparation; Alvie C. Lovitt, Donnie R. Satterfield, Glen Shields and Maurice L. Smith supervisors in the Fabrication Division.

Fowler, a native of Waverly, Tenn., joined Union Carbide in 1977 after working with the Tennessee Valley Authority. He and his wife, the former Irene Smith, live at 7249 Evanel Way, Powell. They have a son, Richard Jr.

Gaston was born in Knoxville, and worked with the Southern Railways before coming to Y-12 in 1954. He served in the U.S. Army during World War II. Mrs. Gaston is the former Dot Lacey. The couple lives at 2805 Avondale Road, Knoxville.

Kitts, a native of Knoxville, attended the University of Tennessee. Prior to joining Union Carbide in 1971 he was manager for a Krystal restaurant. He and his wife, the former Judy Hansard, live at Route 1, Andersonville. They have two children, Kevin and Michael.

Lovitt, a native of Williamsburg, Ky., attended the Ohio College of Applied Science. He was with the American Can Company and ORTEC before joining Union Carbide in 1962. He is a veteran of the U.S. Army. Mrs. Lovitt is the former Margaret Hicks. They live at 104 Middlebury Road, Oak Ridge.

Satterfield was born in Blount County and worked with Maples Sheet Metal before joining Union Carbide in 1969. He and his wife, the former Bertha Pate, live at 7244 Evanel Way, Powell. They have a son, Gregory.

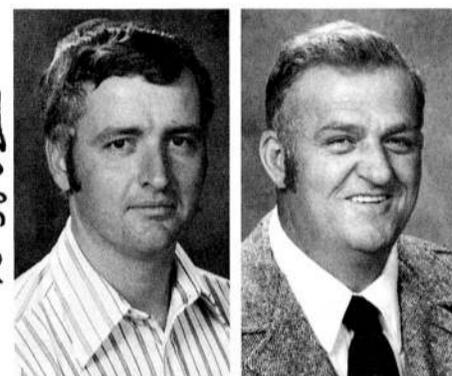
Shields was born in Vonore, Tenn., and worked with Chrysler Corporation before coming to Y-12 in 1960. He is a certified engineering technician. He and his wife, the former Eula Moser, live at 202 East Drive, Oak Ridge. They have three children, Gwendolyn, Wilma and Steven.

Smith, a native of Loudon County, worked at Hayes Aircraft, Carey House Industries and Dempster Brothers before joining Union Carbide in 1959. He is a veteran of the U.S. Army Air Corps. Mrs. Smith is the former Helen McCarter. They live at 5504 Cliffwood Road, Knoxville, and have a son, Gary.



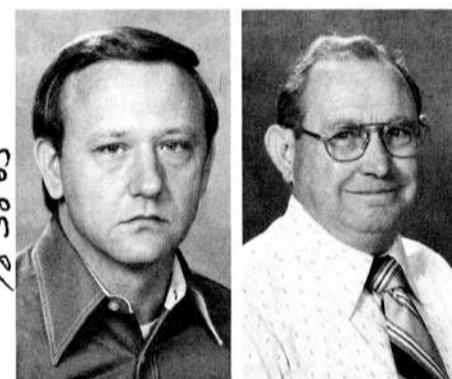
Fowler

Gaston



Kitts

Lovitt



Satterfield

Shields



Smith

## Energy tips...

Install a flow restrictor in your shower. It's easy to install and saves water by restricting the flow to three or four gallons per minute, which is very adequate for showering. Using more hot water than you need really wastes energy and money.

Are you planning to remodel your kitchen? Remember not to build cabinets or counters too close to the refrigerator. If you want the "built-in" look, be sure to leave enough space for air to circulate around the refrigerator. If air flow is restricted, heat can build up and the air compressor must then work harder and longer—and waste energy!

## NUCLEAR DIVISION NEWS

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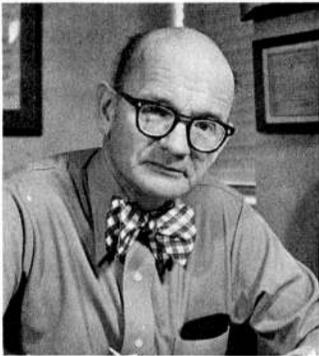
Ira N. Kaplan, Ext. 3-9724

### PADUCAH

Darlene McPherson, Bell 208



Member,  
INTERNATIONAL  
ASSOCIATION  
OF BUSINESS  
COMMUNICATORS



# Hypoglycemia. . . more than a mouthful

by T. A. Lincoln, M.D.

(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning 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 21, Y-12, or call the news editor in your plant, and give him or her your question on the telephone.)

QUESTION: "A former Oak Ridger, I am writing to you in reference to a problem which I discovered I had in 1971. I learned I am chronically hypoglycemic (low blood sugar) at that time. I am confused by the suggestions about treatment of hyperinsulinism. When I take sugar, my body reacts very negatively; however, when I stay away from sugar, I get favorable results."

ANSWER: The most important answer I can give is, "Was the diagnosis adequately established?" Let me list some essential facts which are needed to unequivocally establish the diagnosis:

1. A patient with low blood sugar may have many weird symptoms. Typically, they include nervousness, shakiness—often associated with a gross tremor, hunger, sweating, weakness, inability to concentrate or read, and sometimes gross confusion. All these symptoms should disappear promptly when the blood glucose is raised to a normal level by eating almost any food. Sweetened fruit juice, a cola, or just sugar water should give relief within 5 to 30 minutes.
2. Symptoms of hypoglycemia ordinarily occur at specific times of the day, usually three to five hours after a meal. The attacks are repetitive. If attacks occur only every few weeks, they may not be due to hypoglycemia.
3. The symptoms should always be associated with a low absolute level or a rapid fall in blood glucose. The association ideally should be confirmed more than once, even though it may require rushing the patient to a clinic or laboratory so the blood specimen can be withdrawn before any food is eaten.
4. A three or even five hour glucose tolerance test may be useful. A three-day conditioning period using a diet rich in carbohydrates before the test is absolutely essential.
5. If low blood glucose levels are confirmed, serum insulin values may need to be determined to see what the fasting insulin value really is, and what happens to it when sugar is eaten. Other special tests are also available. Hypoglycemia may have many causes. Chronic excessive alcohol intake, chronic liver disease, early diabetes and drug reactions are fairly frequent causes.

The most common type, however, is what is called functional hypoglycemia. Usually people with this type of hypoglycemia are thin and nervous. The late afternoon is the most common time for the symptoms to appear and sometimes they are not associated with a pathologically low blood glucose. If the fall in the glucose level has been rapid, symptoms may occur even though the absolute level of glucose is not extremely low. The symptoms are due to the release of epinephrine (adrenalin) by the adrenal glands in response to some nervous stimulus. Actually, most of the symptoms of hypoglycemia are due to an excess of epinephrine and can be duplicated by an injection of the drug. In many cases of functional hypoglycemia, the problem is not glucose but epinephrine. It is therefore important to know whether or not the blood glucose is excessively low during attacks.

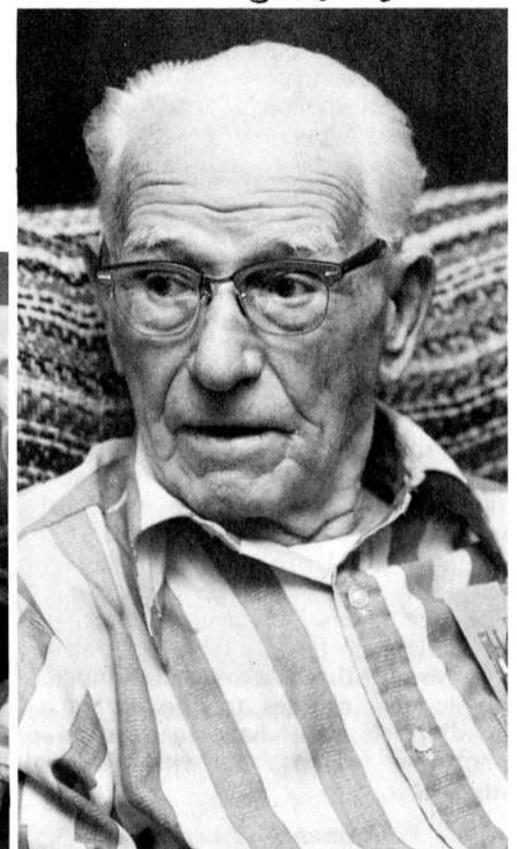
There are many other causes of hypoglycemia. A relatively rare one is a tumor of the insulin-secreting cells in the pancreas which causes a great excess in insulin. Fortunately, it is usually benign and can be cured with surgery.

Individuals who have functional hypoglycemia seem to get along better on a low carbohydrate diet and by avoiding high sugar-containing beverages or foods, especially after fasting. Unfortunately, the diagnosis is currently "fashionable" and improperly made rather frequently. Sometimes, the dietary treatment can become almost a fetish. A tranquilizer and reassurance may be a more rational treatment than a severely restrictive diet.

## Enjoying the leisure life. . .

5125-78

Editor's note—Attention retirees! The Nuclear Division News is on the lookout for retirees with interesting hobbies, community service activities and new careers. If you are such a retiree, or if you know a likely candidate, please contact your Nuclear Division News plant representative, listed each issue in the masthead.



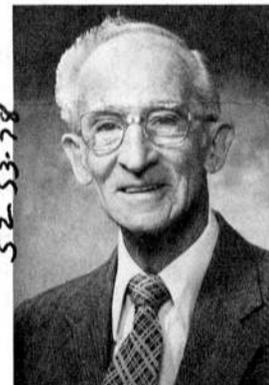
Ethel Wright, a 21-year retiree from ORNL's Chemical Technology Division, lives a relaxing life in a white frame house on Guinn Road in the Solway area. His favorite pasttimes include doing yard work, watching football and baseball on television, and playing with his white, Persian-like cat, Tom. Wright was employed as a clerk in the Nuclear Division for 11 years where he maintained 105 clothing lockers.

5126-78



Jeanne A. Brown  
Central Management  
ORNL  
30 years service

5098-78



Stephen K. Denny  
General Engineering  
ORNL  
24 years service

52-53-78



Garland P. McGhee  
Y-12, Alpha Five  
West Shop  
30 years service

478-98

## 32nd golden shoe. . .

### Proper shoe gear saves Wright's foot

Pipefitter Fred H. Wright, ORNL's Plant and Equipment Division, received the Golden Shoe Award for wearing proper foot protection, which saved him from serious injury on the job. He was handling a T-shaped crosspipe—weighing approximately 50 pounds—when it rotated, and a valve on the end struck the safety cap of his shoe. Wright is the 32nd member of P&E and the sixth member of his craft to receive the award.



4424-78

## Plants almost 12% over UW pledges

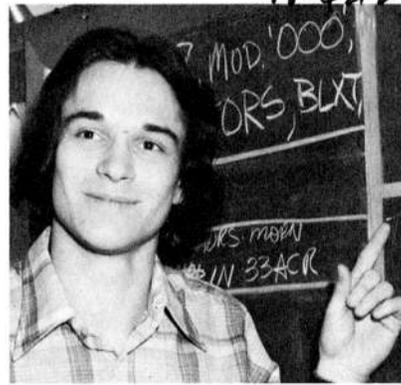
The Nuclear Division's 1978 United Way campaign was completed this month with an unofficial total for all four plants of \$841,154—almost 12 percent more than this year's \$755,000 goal.

This total based on daily reports through Monday, October 23, reflects the following pledges:

Plant	Goal	Total to Date	% of Goal
ORGDP	\$216,752	\$253,133	117
ORNL	274,028	291,315	106
PGDP	85,000	93,440	110
Y-12	179,220	203,266	113

In spite of a slight dip in employment, the Paducah Plant boasted a 25 percent increase in pledges over 1977.

## Six promoted at ORGDP



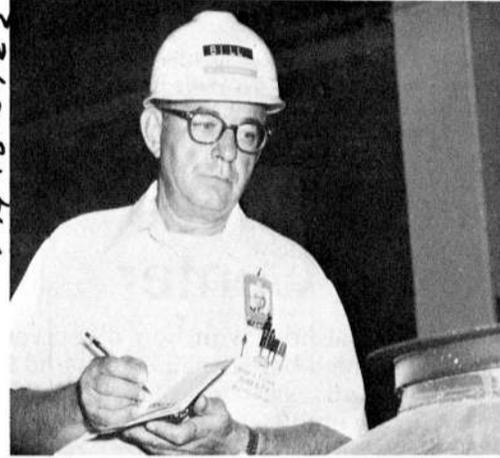
Armstrong



Shoemaker



Townsend



Gardner

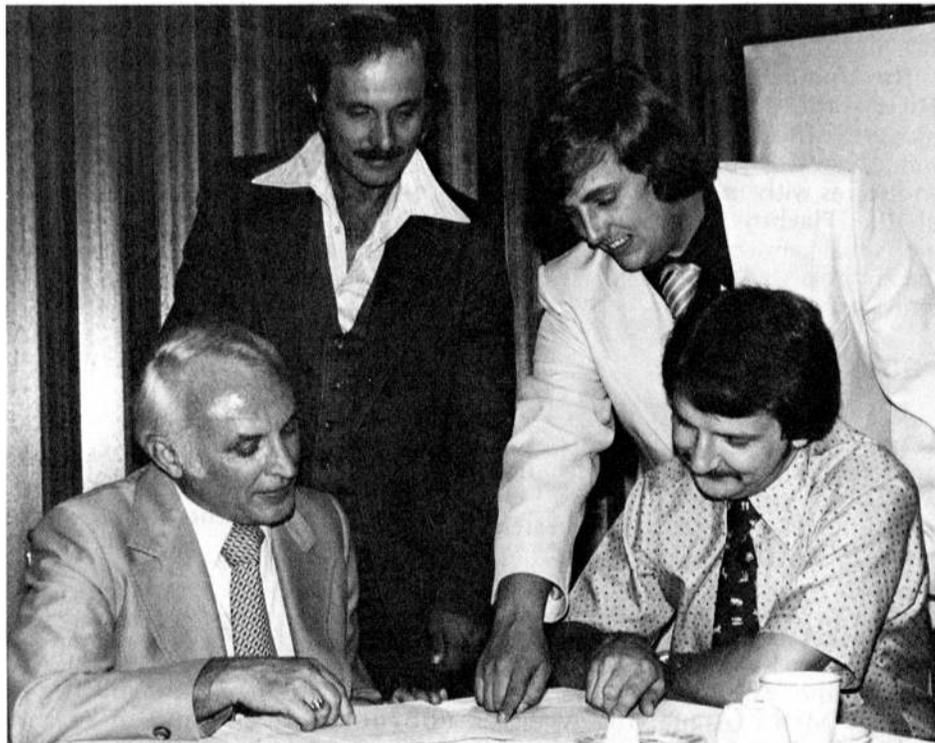


Keck



SHARING THE UNITED WAY—Half the fun of learning is being able to share that knowledge with someone else. Several youngsters attending the Salvation Army's summer vacation Bible school share what they have learned during the sessions with four of the Paducah Plant's United Way contributors during a recent visit. From left are Charlene Riley, Employee Relations Division; Dave Dodson, Fabrication and Maintenance Division; Nadie Lahndorff, Technical Services Division; and Paul Strickland, Cascade Operations Division.

## New ASNT chapter seeks members



ASNT CHARTER MEMBERS—Making plans for the Western Kentucky Section of the American Society of Nondestructive Testing are the newly elected officers, all in Paducah's Mechanical Inspection Department. From left are Jim Armstrong, president; Randy L. Holmes, treasurer; Mickey T. Spiceland, secretary; and Butch Alderson, program chairman.

Paducah Plant employees have received a charter for a local section of the American Society for Nondestructive Testing (ASNT). The society was formed to advance the scientific, engineering and technical knowledge in the field of nondestructive testing through education, research and the compilation of information useful to individuals and beneficial to the general public.

The society was organized by Paducah Plant employees, but is open to anyone interested in that field. Membership provides such services as job placement information, the availability of educational materials, a trade magazine, certification opportunities and research data.

Prospective members should call Jim Armstrong, Bell 203, for further information.



Keigan

Six promotions have been announced at ORGDP. John E. Shoemaker has been named superintendent of the Operations Planning Department in the Operations Division, Terra K. Townsend and Howard F. Keck have been named lieutenants in the Fire and Guard Department, William A. Gardner was named a Maintenance Supervisor in the Fabrication Shop Department of the Maintenance Department, Donald P. Armstrong has been named a cascade supervisor in the Operations Division and Kathleen M. Keigan has been named an employee relations representative in the Employee Relations Division.

Shoemaker, a native of Kingsport, received a BS degree in chemical engineering from the University of Tennessee. He joined the Nuclear Division in 1969 and in his most recent position served as K-32 area supervisor. Shoemaker and his wife, Frances, live at 645 Fernwood Road in Knoxville with their son Christopher.

Keck was a laboratory technician in the Separations Systems Division before taking his new position. The Harrogate, Tenn., native and his wife, Polly, live at Route 2, Powell. They have five children, Dale, Jim, Pamela, Richard and Debra.

Gardner, a Knoxville native, joined the Nuclear Division 24 years ago. He transferred to ORGDP in 1975. Gardner and his wife, Ruth, live at 5025 Delapp Drive in Knoxville. They have six children, Rebecca Thomas, a cashier at ORNL; Billie, Carolyn, Vickie, Pamela and Michael.

Armstrong, a native of Paducah, joined ORGDP three years ago. He is attending the University of Tennessee through the Nuclear Division's

educational assistance program. Armstrong lives at 9309 Ashmeade Road, Knoxville.

Keigan, who received a BS degree in industrial management from the University of Tennessee, joined the Nuclear Division one year ago. She is a native of Des Moines, Iowa.

Keigan and her husband, Michael, live at 1901 Penwood Drive, Knoxville. He is an engineer in the Chemical Process Design Department at ORNL.

Townsend, a native of Roane County, was employed by ORGDP in 1969 as a clerical worker. She lives in Kingston.

## patents granted. . .

To Henry D. Cochran Jr., ORNL, for "Method of Measuring the Mass Flow Rate of a Substance Entering a Cocurrent Fluid Stream."

To Robert L. Ludwig, Y-12 Plant, for "Ductile Tungsten-Nickel Alloy and Method for Manufacturing."

# recreationotes . . .



**CHRISTMAS PLANNERS**—Members of the ORGDP Christmas dance committee begin plans for a gala holiday party. They are, from left, Don Tidwell, Bob McCoy, Marie Burns, Marcie Rogers, Evelyn Cole, Andy Kiriluk, Ray Carden, Ben Houser, Jack Gresham, Joe Burch, Ben Alexander, Sherry Robbins, Cindy Daughtery and Jane Kendra. Not shown are Lou Edwards, Saylor Hancock and Debbie Flanagan.

## ORGDP sets holiday dance December 9 at Civic Center

The annual ORGDP Christmas Dance has been scheduled for December 9, 1978, at the Oak Ridge Civic Center. This year's dance, with a theme of "The Night Before Christmas," is being sponsored by the Technical Services Division at ORGDP. According to co-chairmen Andy Kiriluk and Evelyn Cole, a gala night is in store for those ushering in the start of the holiday season.

A social hour with hors d'oeuvres will be held between 7:30 p.m. and 9 p.m. and will be followed with dancing until 1 a.m. A variety of music will be provided by the band of Bob Stewart and "Southern Storm."

Tickets are \$7 per person and can be obtained by calling Jack Gresham, 3-3139, or your divisional ticket representative.

## Foothills Craft Guild show scheduled November 3-5 at Ridge Civic Center

Many Nuclear Division employees are involved in the 12th annual Foothills Craft Guild show and sale, set November 3-5 at the Civic Center in Oak Ridge. Co-sponsored by the Oak Ridge City Recreation Department, more than 100 Tennessee craftsmen will display their wares in the individual booths. The craftsmen will be featured in special model rooms, discussing the traditions and innovations in their chosen fields.

Maps will be available giving the visitor a lead through the special exhibits and booths. The annual "Chucky Award" will be given for the best looking booth at the show.

Additional information may be obtained about the show by calling the Foothills Craft Guild Shop in the Doctor's Building in Oak Ridge.

Union Carbide employees and spouses involved in the big show are: Mitzi Miller, quilter (wife of Forest L., ORNL); Peggy Heddleson, bannermaker and ceramicist (wife of Fred, Y-12); David Hackett, Amerind crafts (ORGDP); Bill Dunlap, furniture making (recent retiree); Barbara Pullen, leathercraft (wife of William, Y-12); Robin Williams, woodworker and metallurgist (ORNL); Barbara Hackett, show and sale co-director (wife of William, Y-

12); Nancy and Lowell McCauley, chair caning and needlepoint (he's in OCPO); Marti Fleischer, macrame and counted thread embroidery (wife of Bertram, ORGDP); Eun Sook Kim, potter (wife of Hee J., ORNL); Frances and Herman Weeren, potters (he's in ORNL); Dick Busey, furniture maker (ORNL); Jo and Jim Brewer, plastic ornaments and jewelry (Jim is at ORGDP); Jean Cole, potter (wife of Thomas E., Y-12); Gwen McLaughlin, macrame and nature notes (wife of Larry, Y-12); Jude Martin, toymaker, co-director of show (wife of Donald, Y-12); Sandy Hartman, quilter (wife of Harold, ORNL); Nancy Braski, off-loom weaver and basket-maker (wife of David, ORNL); George and Judy Kidd, toymakers and chair caners (ORNL); and Cliff Johnson, woodworker (Y-12).

## Carbide bowling. . .

### Y-12 C League. . .

The Mini-Strikes are leading the "C" League over the Sunflowers after four weeks of bowling. Charles Baxter, of the Sunflowers, holds the season high handicap series with 674. Norman Shamblin, of the Mini-Strikes, holds the season high handicap game.

### Classic League. . .

The Eightballs are leading by one point in the Classic League over the Ridgers. The Eightballs won the weekly awards for high team game and series with 1062/3032. Joe Keen, of the Playboys, rolled the high individual game of 267. Jack Spears, of the Eightballs, rolled a 668 to win high individual series.

### Family Mixed. . .

The Oops lead the Family Mixed League over the Arty Chokers. The high scratch series awards for the week went to Del Ducay with a 529; and Tillie Plaza with a 587 scratch series.

### K-25 Tuesday League. . .

The Team has pulled way out in front of the Valve Shop in the K-25 Tuesday Men's League. This week's highs go to R. V. Rinehart, of the City Slickers, rolling a 216 scratch game; and H. B. Gunter, of the All Stars, rolling a 558 scratch series.

### UCC Monday Mixed. . .

In the UCC Monday Mixed at Western Plaza, the Roadrunners continue to lead the league with a 1-1/2 game edge. The Pin Breakers and Alley Cats are tied for second. Randall Delozier bowled a sizzling 236-173-170=579 to take the lead for men in both game and series. The Hard Luck Four bowled a 1979 to take high team series.

### ORGDP Women's. . .

During the sixth week of bowling, the Payoffs continue to lead the Purchettes in the ORGDP Women's League. Elaine Curtis, of the Woodbees, was bowler of the week, rolling a 173-239-203=615 handicap series. During the fifth week of bowling, Lynne Hinton, of the Avengers, was bowler of the week, rolling a 251-195-199=645 handicap series placing her in first place for the season.

### ORNL Ladies. . .

The Mousechasers only lead by two points in the ORNL Ladies League during the fourth week of bowling. White Gaither won the high scratch game and series of the week with a 213/498.

### K-25 A Shift. . .

The Alley Cats lead the "A" Shift Mixed League over the Spin Kings. Jennie Saffell was the bowler of the week rolling a 209-234-224=667 handicap series.

### Paducah golf. . .

The 1978 Paducah Plant golf league coordinated an end-of-season tournament at Paxton Park. League winners were as follows: Championship Flight: Phil Brown, Bruce Kersey, Steve Seltzer, Mike Mazzone; First Flight: Earl Richardson, Jim Lawson, Gus Kosinski, Gene White; Second Flight: Bob Moss, Mike Flood, Max Sacharnoski, J. Harbison; Third Flight: J. B. Howard, Bill Higgins, Archie Miller III; Fourth Flight: Carlton Vickery, Bill Rudolph, Carl Walter, Tony Morphew.

Archie Miller Jr. captured the day's "Nearest-to-Pin" honor and C. J. Vickery was hailed the tournament's champion sandbagger.

## safety scoreboard

Time worked without a lost-time accident through October 19:

Paducah.....	69 Days	881,000 Employee-Hours
ORGDP.....	196 Days	6,345,200 Employee-Hours
Y-12 Plant.....	190 Days	5,898,000 Employee-Hours
ORNL.....	10 Days	280,000 Employee-Hours

### Clip & Save

## FALL TURKEY SHOOTS

November and December turkey shoots at the Oak Ridge Sportsmen's Association range have been set by various shift groups throughout the Oak Ridge complex. Following is a clip-and-save schedule:

Date	Time	Sponsor
November 4	10 a.m.-2 p.m.	ORGDP "C" Shift
November 8	10 a.m.-2 p.m.	ORNL "B" Shift
November 10	8 a.m.-Noon	ORNL "D" Shift
November 11	8 a.m.-Noon	Y-12 "D" Shift
November 12	2-4 p.m.	Separations Systems
November 14	8 a.m.-Noon	ORGDP "D" Shift
November 16	8 a.m.-Noon	ORNL "A" Shift
November 17	9 a.m.-Noon	ORNL "C" Shift
November 18	8 a.m.-Noon	ORGDP "A" Shift
November 19	2-4 p.m.	Separations Systems
November 20	8 a.m.-Noon	Y-12 "D" Shift
November 25	8 a.m.-Noon	Y-12 "A" Shift
December 2	8 a.m.-Noon	Y-12 "C" Shift
December 9	7 a.m.-Noon	Y-12 "D" Shift
December 10	2-4 p.m.	Separations Systems
December 16	8 a.m.-Noon	ORGDP "A" Shift
December 17	2-4 p.m.	Separations Systems
December 23	8 a.m.-Noon	Y-12 "A" Shift



# ORGDP readies for blood drive

ORGDP employees are busily preparing for the first Red Cross Blood Drive to be held there, October 30, 31. Supported by both management and organized labor, the drive is in full gear, with divisional representatives taking reservations for donations.

After the representatives have compiled their lists, each individual will be provided with a time for his/her donation. Additional buses will be used in the plant for those two days to make sure everyone gets to Portal 2 that wants to give blood.

Divisional representatives include:

Computer Sciences	Lonnie L. Anthony, 3-3146
Operations Analysis and Planning	Fay B. Duncan, 3-3186
Shift Operations	Mae Ely, 3-3282
Maintenance	Jim E. Heiskell, 3-3137
Separations Systems	Donald E. Tidwell, 3-3777
Operating Contractors Project Office	Willis E. Muldrew, 3-9437
Engineering	George F. Pilgram, 3-3184
Central Employment	Louise Bentley, 3-4595
Finance, Materials and Services	Harold E. Alexander, 3-9638
Operations	J. Doug Lovette, 3-3001
Technical Services and NURE	Gerald V. Pierce, 3-9622
Security and Plant Protection	Mary Hughes, 3-3044
Enrichment Technology	Marion Randolph, 3-3577
Purchasing and Auditing	Opal Waller, 3-4264
General Accounting	Ron S. Barry, 3-9821
Environmental Management and Added Enrichment Review Team	Joe M. Wolfe, 3-3688
Barrier Manufacturing	Gary M. Denton, 3-3874
Capacity Expansion	W. Eugene Rooks, 3-3320
Employee Relations	Mary M. King, 3-3311



**'Skyward'**

"Skyward," photographed by Jon Q. Thompson of ORNL's Photography Department, was exhibited at the Tennessee Professional Photographers' Association Convention in Nashville, where it was awarded a "Court of Honor" award. This award was given to the top 30 photographs exhibited by photographers across the state. The photo was taken from the bottom of the Heavy Ion Tower before the vessel was installed.



**OUTSTANDING RESPONSE**—Local industries in the Paducah area were recently honored for the response of employees to the Nashville Regional Red Cross Blood program. Accepting the plaque for the most outstanding response is Bob Washer, coordinator of the Paducah Plant's donor program. Since its inception in October, 1976, employees at the plant have given 2,038 units of blood to the center, constituting almost 40 percent of the total county contribution. Wayne Cimely, left, McCracken County Committee chairman and Charles Farmer, right, director of the Center, expressed their gratitude for the plant's exceptional participation and continuous support.

## about people . . . .

**Dorothy M. Skinner**, a research staff member in ORNL's Biology Division, will begin a four-year term in 1979 as associate editor of the journal *Growth*.

The publication, which has nationwide distribution, deals with the problems of normal and abnormal growth. Skinner has since 1970 headed a Biology Division group studying growth and regeneration.

A Nuclear Division employee since 1966, Skinner is also a professor of biomedical sciences at the University of Tennessee-Oak Ridge Graduate School of Biomedical Sciences, located at ORNL. Her professional memberships include the Society for Developmental Biology, the Society of General Physiologists, the American Society for Cell Biology, the American Association for the Advancement of Science and the American Society of Biological Chemists.



**Skinner**

**Clifford A. Burchsted**, ORNL's Engineering Technology, has received the American Society for Testing and Materials Award of Appreciation. Cited for his outstanding service to ASTM, he was recognized as chairman of the D-28 Committee on Activated Carbon since 1972, a member of the B-8 Committee on Electrodeposited Coatings on Steel, and secretary of the work group of Committee A-10 on Stainless Steel that developed ASTM's Standard A380, Descaling and Cleaning of Stainless Steel Parts, Equipment and Systems. Burchsted has also been active in standards committees of a number of other technical societies.

## division death. . .



**William T. Galyon**, Y-12 Fire Department, died October 15 at the Harriman Hospital. A native of

Harriman, he came to Y-12 September 18, 1944, after working with the Harriman Hosiery Mills.

Survivors include his wife, Gladys Wright Galyon; sons, Tommy, Johnny, Larry and Danny; sisters, Edna Jean Swicegood, Marie Taylor, Ruby Jacks, Vera Jenkins and Patricia Wiles; brothers, James and Harold; and seven grandchildren.

The funeral was held at Childs Memorial Baptist Church, with interment in Roane Memorial Gardens.

# anniversaries ...



**George D. Davis**, a technician in ORNL's Chemical Technology Division, began his company service at Clinton Laboratories on November 26, 1943. He lives at 424 Mill Street, Kingston.

**Hermon L. Dickerson**, development engineer in the ORNL Physics Division, joined Tennessee Eastman at the Y-12 Plant on November 29, 1943, and transferred to ORNL in 1948. He lives at 140 West Arrowwood Road, Oak Ridge.

**Dayton King** (not pictured), a veteran chemical operator with the Operations Division, ORNL, began his company service on November 25,

1943. He lives at 105 Goucher Circle, Oak Ridge.

**Velma R. Moore** joined ORNL on November 15, 1943. Moore has been at ORGDP since 1948 and is now secretary in the Chemical and Toll Enrichment Operations Department. The Hamilton County native and her husband, William, live at 100 Hamilton Circle in Oak Ridge. He is employed in the Buildings and Grounds Department at Y-12.

**Herbert S. Pomerance**, information analyst in ORNL's Information Division, joined Clinton Laboratories on November 27, 1943. Pomerance also has worked in the ORNL

Analytical Chemistry, Physics, Education and Solid State Divisions. Pomerance lives at 104 Ulena Lane, Oak Ridge.

**Harold D. Smith**, Y-12 Maintenance Division, came to Y-12 October 20, 1943. He lives at Route 4, Harriman.

### Y-12 PLANT

**30 YEARS**  
Thomas B. Hendrix, Process Maintenance.

**25 YEARS**  
Gene A. Ware, Frank C. Stoetzel, James R. Taylor, Arthur C. Bailey, Charles L. Myers, James E. Hale Jr., James D. Bowling Sr., Campbell R. Kelly, Joe L. Hart, Edwin J. Holt, David M. Cleveland Jr., Lake M. Ledford, James W. Leinart and Kenneth B. McNabb.

**20 YEARS**  
Yotsey R. Lunsford.

### PADUCAH

**25 YEARS**  
Lelon M. Farley.

### ORNL

**30 YEARS**  
Jackson B. Davidson, Instrumentation and Controls.

**25 YEARS**  
James B. Gheen, Lois H. Woods, Frederick J. Dewey, Jack J. Campbell, Paul E. Stein, Rex H. Walls and Albert J. Farmer.

**20 YEARS**  
William C. Carothers, Gilbert V. McKinney, A. J. Gentry Jr., Curtis Gibson, Althea S. Tate and Fred L. Timmons.

### ORGDP

**30 YEARS**  
Taylor G. Burke, Separations Systems; Hoyt Robinette, Maintenance; and Sylvester J. Jones, Maintenance.

**20 YEARS**  
Helen B. Lane, Ralph G. Williams Jr., Jackie A. Holt.

## 50-pound pipe strikes safety shoe



**MICHAEL E. DOBSON**, a pipefitter apprentice in ORNL's Plant and Equipment Division, is the 33rd division employee and the seventh member of his craft to receive the Golden Shoe Award. Dobson's safety shoe protected his foot when a three-foot length of a four-inch carbon steel pipe fell more than four feet off a welding turntable, striking his foot. The pipe weighed approximately 50 pounds.

## 'Thanks, Carbide, for helping'

"Everyone should have an opportunity to help someone who is less fortunate. I feel better knowing I can help them through part of their difficulty. Employees of PGDP come from a large area surrounding the plant and have many special interests in the United Way funded agencies in their communities.

'Am I my brother's keeper?' I think so. The keeper of my brother's children, also. . . Which brings me to my special agency, Marshall County Foster Parents Association, Inc. As a foster parent and officer in the agency, I am asked to help provide items for foster children that are not always funded in any other way.

Special clothing for school activities such as the marching band, flag corps and cheerleading is provided, along with funds for music instruction and other artistic endeavors. Things like camping activities are also sponsored.

The past few winters have been extreme, and normal clothing allowances just won't stretch far enough. And funds for Santa Claus are always there to help brighten a child's Christmas.

Thanks, Carbide, for helping us help them."

—Ralph B. Fite  
Engineering Division  
Paducah Plant



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