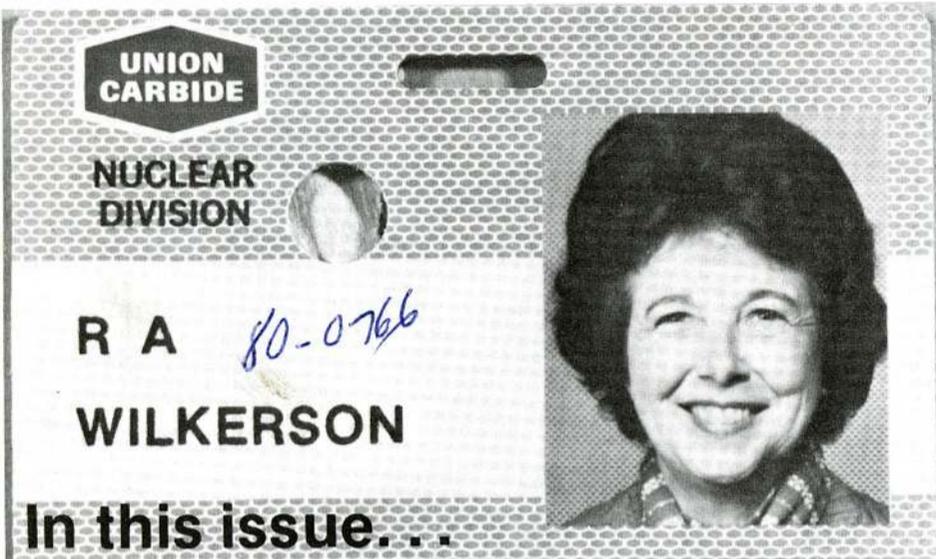


NUCLEAR DIVISION NEWS



a newspaper for employees of the nuclear division • union carbide corporation

Vol. 11/No. 5 March 6, 1980



45-year veteran, Elmer Shesler will hold lowest badge number

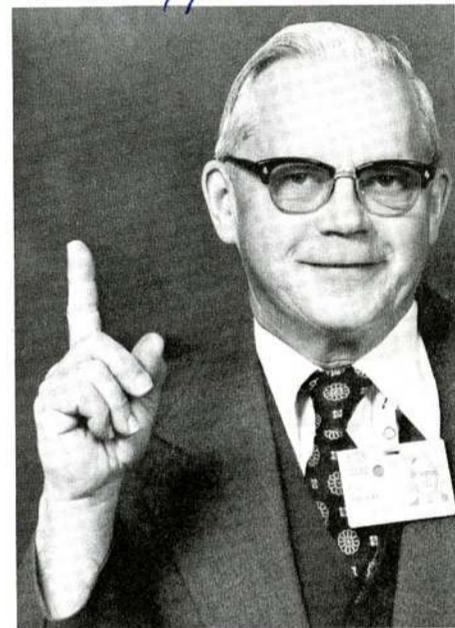
Elmer Shesler, Engineering Division at the Y-12 Plant, will hold the lowest badge number in the Nuclear Division, thanks to more than 45 years with Union Carbide Corporation. It was in the bleak days of the Great Depression, December 26, 1934, that Shesler joined the Bakelite Corporation in Yonkers, N.Y. (Five years later Union Carbide purchased this company.) *19 3053*

A native of Somerville, N.J., Shesler says his beginning salary with Bakelite (\$65 per month) wasn't much, but during the depression, "any job was a godsend." The job was supposed to have lasted for two weeks, and 45 years later he finds himself still on the job.

It was on an assignment for Bakelite that Shesler met Erma Macbeth, in Savannah, Ga. They were married September 16, 1939, and moved to Yonkers, N.Y. It was one month later that Union Carbide purchased Bakelite, and the Sheslers became a Carbide family.

They have three daughters, Brenda, Erma and Dianne, all now married to Union Carbide engineers, at Centerville, Iowa, Greenville, S.C., and Marietta, Ohio. There are also 10 grandchildren.

Shortly after transferring to the Nuclear Division in 1976, Shesler bought his ultimate retirement home, near Kingston, in Westshore Estates overlooking Watts Bar Lake. There's a workshop in the basement with all kinds of ceramic equipment and supplies. Hobbies and other activities include woodworking, ceramics, art-work, sewing, gardening, weaving, upholstery, boating, swimming, fishing, raising worms for fishing and vacationing around the country. Enough to keep anybody busy, Shesler says. *1073-80*



Elmer Shesler

Shesler's education included studies at the University of Toledo plus some graduate work at the University of Tennessee.

After living in Vermont, Ohio, West Virginia, Georgia and other places, he says he has found his 'settling down' place in East Tennessee. He doesn't discuss retirement yet, planning to take one day at a time, and retiring when the notion strikes. "May even work 'til I'm 70," he says.

In this issue...

A new badge system is coming for all Nuclear Division employees. Detailed information may be found on pages 4 and 5 of this issue.

Other features.

- Medicine Chest.....page 2
- Discount circus ticketspage 3
- Y-12 promotions.....page 3
- Question Box.....page 7

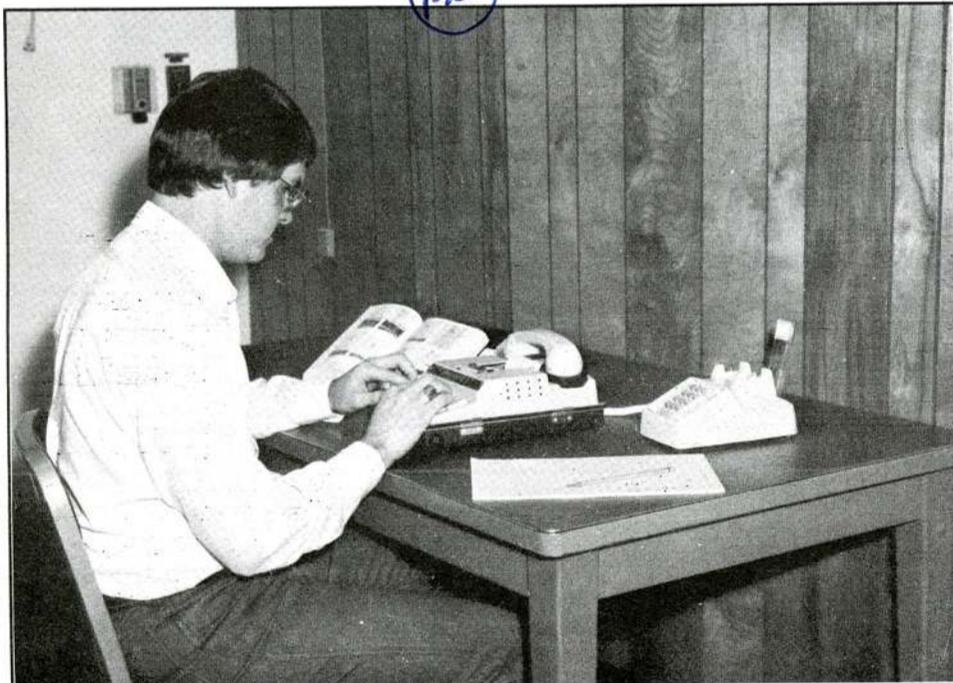
UT Graduate School gives schedule

The University of Tennessee's Oak Ridge Resident Graduate program will begin its spring quarter March 26. Registration will be held March 24 and 25 at the headquarters, 246 Laboratory Road, Oak Ridge.

school. Several engineering courses will also be offered in the College of Engineering; and math and physics courses will be taught in the College of Liberal Arts.

Schedules are available in the Educational Assistance offices throughout the three Oak Ridge plants. Additional information may be obtained by calling 576-3429.

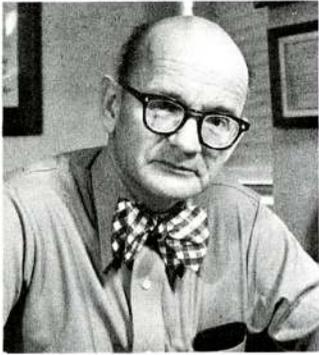
Accounting, business law and management courses will be offered in the Business Administration *Prd*



PORTA-PRINTER INSTALLED—A Porta-Printer II telephone/typewriter has been installed by the Engineering Department for use by all deaf employees at ORGDP. It is a portable instrument that provides a printed copy of telephone conversations. When a person who can't hear wants to make a telephone call, he/she contacts the Knoxville Area Communications Center for the Deaf via the TTY. KACCD personnel receive the printed message via the TTY and relay the call to the desired party. The TTY is another service provided by Engineering and the Affirmative Action Program for the handicapped at ORGDP. Freddie Markham, ORGDP Engineering, uses the machine.



TELEPHONE AT ORNL—Another portable teletypewriter for the deaf has been loaned to ORNL by Jim Stelling, state coordinator, Services for the Deaf, Nashville. The tabletop unit enables deaf employees to communicate with their homes and other facilities with compatible machines. A similar unit has been in use at ORGDP since early this year (pictured at left). The new communication device was presented to Joanne Gailar, Equal Opportunity Coordinator, and Lynda Lewis, ORNL Affirmative Action coordinator, by Sue Dows, a counselor for the deaf from the Department of Vocational Rehabilitation for East Tennessee. Shown testing the unit are, from left, Lewis; Shirley Killian, Computer Sciences Division; Susanna West, Information Division; and Gailar.



Medicine Chest

Cancer of the tongue

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: "My sister, who is 36 years old, a non-smoker and non-drinker, recently underwent surgery for squamous cell cancer of the tongue. Please explain more about this type of cancer, since the doctors say that normally 90 percent of it is found in older males who smoke. I am also interested in your explanations of the different types of cancer, such as carcinoma, melanoma, etc. For your information, there was no cancer in my family until three years ago, when my mother was discovered to have a brain tumor."

ANSWER: Cancer of the tongue is one of the most common malignant

tumors that occur in the mouth and throat; yet when compared with tumors in other sites like the lung, colon or breast, it is a rare disease. Cancer of the tongue accounts for about 0.5 percent of all cancer deaths each year. As you will see, a fair number of patients with tongue cancer survive many years, and some appear to have been cured. This disease is relatively common in Western India, with 47 percent of all cases of cancer seen at the Gujarat Cancer and Research Institute in Ahmedabad, India, being tongue cancers. The tumor distribution also varies greatly. In the United States, most tumors are on the front two-

thirds of the tongue, while, in India, most of them are located at the base of the tongue. No one knows why.

Cancer of the tongue is most common in men after age 60, but it is not rare in young people. Approximately 25 percent of all cases occur in people of less than 40 years of age. Several papers have appeared in the past five years concerning cases that have occurred in young people even before puberty. The M. D. Anderson Hospital in Houston, Tex., which is world famous for cancer research and therapy, had seven men and four women under age 30 who were treated for tongue cancer between 1956 and 1973. During the same time period, 407 patients over the age of 30 were treated for the disease.

Factors usually associated with this disease are smoking, excessive alcohol consumption, broken teeth that have caused chronic irritation, and syphilis. However, these factors are seldom found in the reported cases of cancer in young people. Good genetic studies have not been reported, but cancer clearly seems to occur more frequently in some families. No one knows whether the cause in these cases is genetic or environmental (such as from diet) or both. In the M. D. Anderson Hospital study, none of the 11 patients received any radiation to the head and neck region during childhood.

Over two-thirds of the cases of tongue cancer occur in men. The point of origin is usually on the middle third of the lateral border. If

anyone is foolish enough to allow the growth to go uninvestigated until it becomes from two to three centimeters in diameter, infection usually occurs. At that time, it becomes painful.

Cancer of the base of the tongue is almost a different disease. Patients seldom discover the primary lesion. They may notice enlarging lymph nodes in their necks, but only with careful palpation is the two-to-three-centimeter mass in the tongue felt.

The treatment of tongue cancer, especially of the front two-thirds, consists of a combination of surgery, radiation and chemotherapy. If the tumor is of a slowly growing type, has not spread to any of the lymph nodes in the neck and is not too large, surgical excision and/or adequate irradiation appear to be equally successful. A combination of external beam radiation and the insertion of radium needles into the tumor appears to have about equal success, usually over 60 percent control at two years. Since 80 to 90 percent of all local recurrences appear within two years, this follow-up period is frequently used.

Unfortunately, the tumors of many patients already have spread to lymph nodes in the neck when the diagnosis is made. If the tumor is a rapidly growing type, the prognosis is poor. However, there are always surprises. Many people who had not been expected to live for a year remain alive for five to ten years after the diagnosis is made.

Your question about the different types of cancer almost requires a course in pathology to answer. The term cancer generally includes any malignant neoplasm or tumor. Leukemias are malignancies involving the blood-forming tissues. The word carcinoma refers to a malignant tumor that arises from the skin, the lining of the respiratory, urinary or gastrointestinal tracts or from a gland within an organ. A sarcoma is a malignant neoplasm that arises from a connective tissue structure such as muscle or bone. A melanoma is a malignant tumor that arises from the cells that give pigment or color to the skin. Technically, it is a melanosarcoma. It is better not to get involved with classifying tumors, because it can be very confusing.

Cancer of the tongue is curable if it is detected early and brought under aggressive treatment promptly. Tobacco and alcohol play important roles in causing it in older men, but its causes in young people are unknown.

Chem Tech to hold St. Patrick's dance

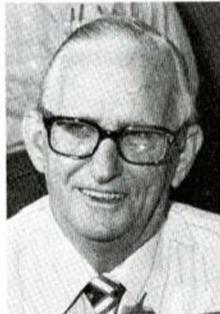
The ORNL Chemical Technology Division's 30th annual St. Patrick's Day Dance will be held Friday, March 21, at the Knights of Columbus Hall on Idlewood Lane in West Knoxville. Hors d'oeuvres and setups will be furnished for the social hour beginning at 8 p.m. Music by the White Sisters and Sister Dee Band will be featured from 9 p.m. until 1 a.m. Door prizes donated by area merchants will be awarded during the intermission.

Tickets are \$7 each and may be purchased from each section head's secretary within the Chemical Technology Division. For further information about tickets or table reservations, please call Mary Ann Sedlmeier at 4-6600.

retirements. . . .



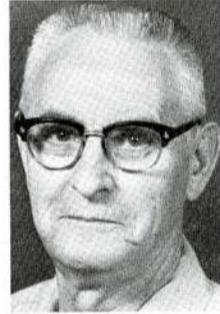
Mat B. Morton
Maintenance
ORGDP
36 years service



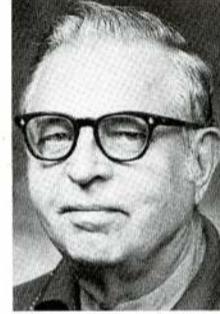
Bertie K. Bristow
Dispatching
Y-12
25 years service



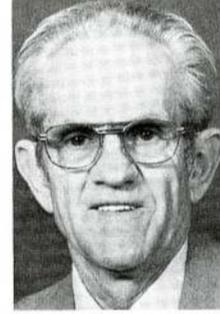
Hurshel B. Lefler
General Shops
Y-12
28 years service



Sherley H. Franks
Process Maintenance
Y-12
26 years service



E. L. Hutto
Engineering
ORNL
36 years service



Charlie L. Nelson
Buildings, Grounds
Y-12
28 years service



William S. Helms
General Shops
Y-12
26 years service



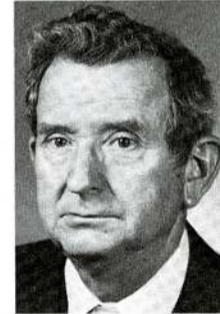
Richard F. Kimball
Biology
ORNL
32 years service



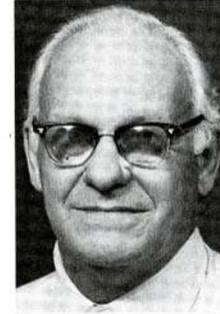
Jessie H. Rayburn
Computer Sciences
ORGDP
26 years service



Broaddus R. Webb
Shift Operations
ORGDP
36 years service



Woodrow W. Beason
Operations
ORGDP
34 years service



George S. Weaver
General Shops
Y-12
26 years service



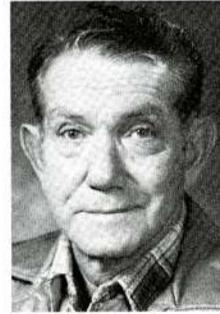
Charles D. Goodman
Physics
ORNL
25 years service



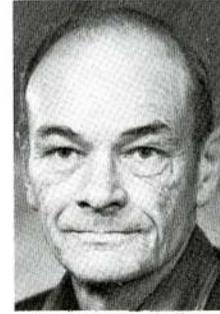
Samuel A. McCosh
Chemical Technology
ORNL
28 years service



Hazel C. Duggan
Information
ORNL
27 years service



John W. Fleener
Operations
ORNL
33 years service



Donald D. Walker
Instrumentation
and Controls
ORNL
33 years service

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
October 79	16.6451	40.7645	9.4576
December 79	16.8967	41.4300	9.9507
January 80	17.0206	44.1851	10.4237

Note: Fixed Income Fund unit values reflect interest additions to achieve the guaranteed effective annual interest rate of 9.1% for 1980. Union Carbide stock values are the average cost of stock purchased during the month. 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.

Eight promoted at Y-12 Plant

Eight promotions have been announced in the Y-12 Plant as Carl F. Conner has been named a machining supervisor in Fabrication; John T. Denson a planner and estimator in Fabrication; Sherilu A. Dutton a health physics inspector in Technical Services; J. Giles Gooch a senior engineering assistant in Development; Bobby J. Hensley a supervisor in Metal Preparation; Shirley B. Humphrys a supervisor in Materials and Services; Martin W. Whaley a planner and estimator in Fabrication; and Kenneth L. Wilson Sr. a machining supervisor in Fabrication.

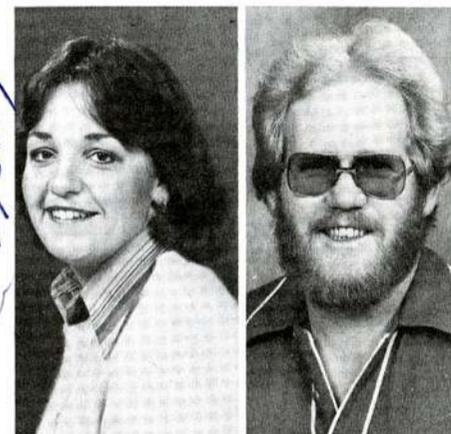


Conner

Denson

Conner, a native of Sevier County, joined Union Carbide in 1954. He attended Knoxville Business College. Mrs. Conner is the former Billie Maxine, and the couple lives at 8500 Westland Drive, Concord. They have two children, Donna and David.

Denson was born in Orlando, Fla., and attended Brevard Community College. Prior to joining Union Carbide in 1979, he worked with the Bendix Launch Support Division at Cape Kennedy. Mrs. Denson is the former Mitzy Young and they live on Shippe Road, Claxton. They have two children, Teresa and Christy.

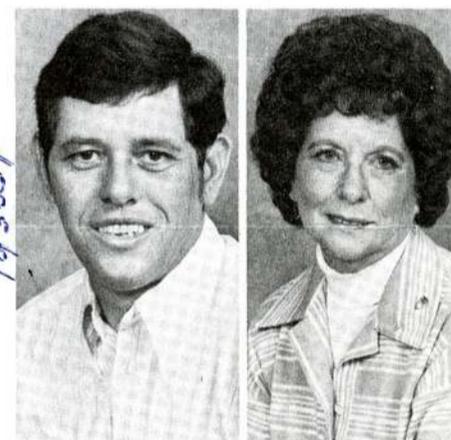


Dutton

Gooch

Dutton is a native of Lenoir City. She attended Roane State Community College, East Tennessee State University and the University of Tennessee before joining Union Carbide in 1978. She worked as a surgical technician at UT Hospital. Dutton lives at 201 Oak Street, Lenoir City.

Gooch is a native of Morgan County and attended the Electronics School at Wartburg, before joining Union Carbide in 1965. He worked briefly with Florida Steel, Charlotte, N.C.

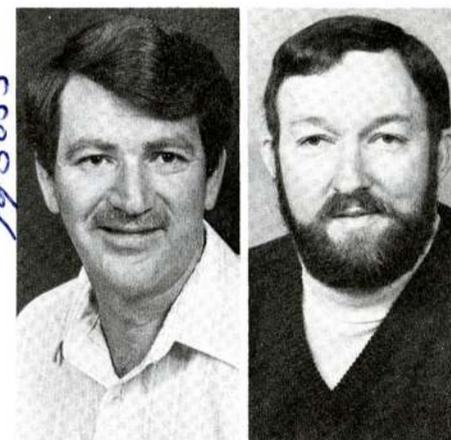


Hensley

Humphrys

Mrs. Gooch is the former Rita Macket and they live at Route 4, Seymour. They have two children, Tracie and Angela.

Hensley was born in Pikeville, Tenn., and attended the University of Tennessee. He served in the U.S. Marine Corps and worked with National Cash Register before coming with Union Carbide in 1971. Mrs. Hensley is the former Betty Jo Burns, and the couple lives at 522 First Norway Lane, Oliver Springs. They have two children, Bobby J. Jr. and Brenda.



Whaley

Wilson

Humphrys joined the Y-12 staff in 1943 as a timekeeper. When Union Carbide began operations here in 1947 she transferred to the Materials and Services Division. She and her husband, Gene, live at Route 2, Heatherbrook Drive, Knoxville.

Whaley was born in Knoxville. He worked with the Tennessee Valley Authority before joining Union Carbide in 1979.

Mrs. Whaley is the former Clatie Chandler, and they live at 5021 Fleetwood Drive, Knoxville. They have two children, Nancy and Martie.

Wilson is a native of Roane County. He attended the Training and Technology Project in Y-12, graduating in 1968. After that time, he joined Union Carbide. He served in the U.S. Air Force four years. Mrs. Wilson is the former Frankie Gordon, and they live at Route 2, Kingston. They have two children, Kenneth Jr. and Kenneya.

Talent show set for Cancer Fund

Many Union Carbide employees are active in planning the sixth annual Roane County Talent Show, set for March 28 at the Roane State Community College at 7:30 p.m.

A variety of pop, country western, patriotic, gospel and barbershop music, a square dance exhibition, clogging, magic and comedy acts is planned for a two-hour show.

Proceeds for the event will go to the American Cancer Society. Tickets are \$1.50 in advance, \$2 at the door.

Circus ticket discounts offered



MASTER CLOWN—Lou Jacobs, long time veteran clown, will entertain at the Ringling Bros. and Barnum & Bailey Circus March 18 through 23. Special discount tickets are available for certain performances. Jacobs celebrates 55 years as an entertainer.

THE GREATEST SHOW ON EARTH has set its annual visit to Knoxville March 18 through 23. Special discount rates are available for Union Carbide Corporation employees for performances at 4 and 8 p.m. on March 19 and 20; and for 4 p.m. only on March 21.

This year's circus features 16 new acts never seen before in this country and brings back animal trainer Gunther Gebel-Williams.

Discounted tickets must be ordered by Friday, March 14. The application below must be accompanied by a check or money order, plus a self-addressed, stamped envelope for a prompt return of tickets.

If you wish to choose your seats or personally pick up your tickets, you may call Knoxville 525-7393 and make arrangements.

Next issue...

The next issue will be dated March 20. The deadline is March 12.

Union Carbide Circus discount tickets

Mail to:
Ringling Bros., Barnum & Bailey Circus
Knoxville Civic Coliseum
P.O. Box 2603
Knoxville, Tennessee 37901
Prices: \$7 and \$6
Deduct \$2.00 for each ticket



Number of tickets _____ ea. \$ _____

(Please indicate 1st and 2nd choices)

Wed. March 19—4 p.m. _____ 8 p.m. _____
Thursday, March 20—4 p.m. _____ 8 p.m. _____
Friday, March 21—4 p.m. _____

Name _____

Address _____

Day telephone _____

Do not mail cash. Make check or money order payable to Ringling Bros. Circus. Please enclose stamped self-addressed envelope for return of tickets. Deadline is March 14.

New badges readied f

There's a new look coming to the Nuclear Division this month. Within the next few weeks, the badges that have long been a familiar sight in the four Division facilities will be exchanged for brand new ones—badges that are different from the old version in just about every way.

There are several reasons for the new look. For one thing, DOE requires that its contractors develop a revised badging system every five years to guard against lost or misused badges. But in addition the new system offers a variety of advantages, including a more desirable type of radiation monitor, automated and computerized reading of the monitors, improved employee identification through the use of color photos, and ultimately a new system for checking badges at the portals.

New photos, new numbers

The new badges come in two parts: an identification badge plus a small health physics meter that is attached to the larger badge by a plastic strap.

The ID badges, featuring a color photograph, have a colored background based on the same system used before—blue for Q-cleared, yellow for L-cleared and red for uncleared employees, and white for uncleared non-citizens. Rust Engineering employees and other Q-cleared non-Carbide personnel who routinely enter the four facilities will have solid green badges. Unlike the old system, there is no color stripe to identify an employee's work site—so that a Q-cleared Y-12 employee, for example, will have a badge identical to that of a Q-cleared ORNL employee.

On the back of the ID badge is the new employee number, assigned according to company service date and beginning with number 1001. This new number will replace the old nine-digit Social Security numbers for

all identification purposes in the Nuclear Division. (The "U" before your employee number is not part of the number. In cases where a computer will be scanning the card, it's a signal for the computer to read five digits.)

Under the new badging system, new employees will be issued temporary laminated badges bearing a color polaroid photo to use until their regular badges have been prepared. Visitors to the four facilities who will be here for extended periods will likewise get laminated photo badges.

The health physics meter is enclosed in a small vinyl packet. Inside is an aluminum card containing two thermoluminescent dosimeters, or "TLD's"—small transparent chips of lithium fluoride that record ionizing radiation. The card is labeled with a bar-coded, machine-readable serial number for identification purposes.

TLD's: "trapped" electrons

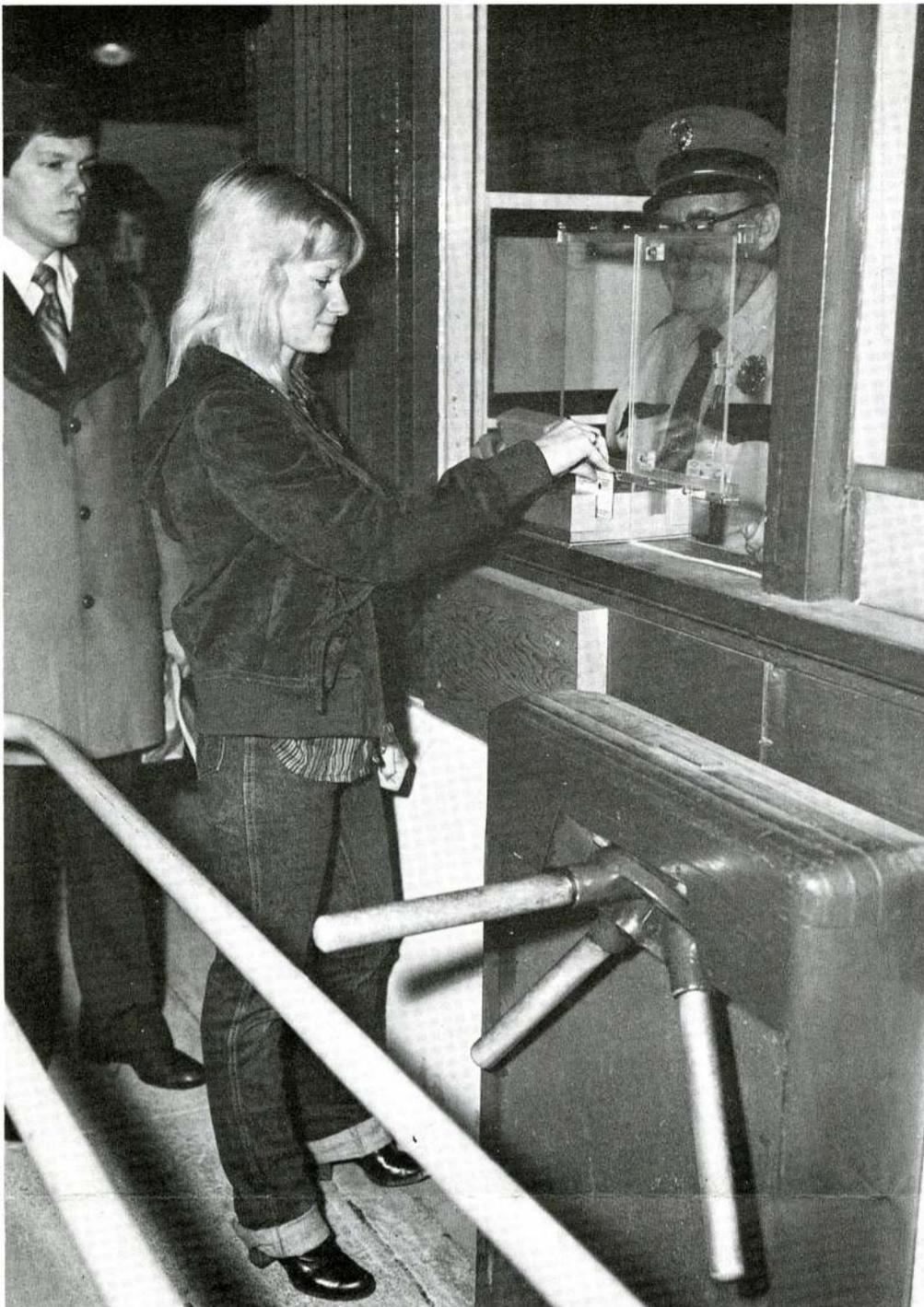
The TLD's contain inorganic crystals that have a property known as thermoluminescence. This means that when they are exposed to radiation, electrons in the crystals are raised to a higher energy level and become "trapped" in structural defects. When the crystals are later heated, they release this energy as light, giving a reading of the amount of radiation to which they were exposed.

Although they're the least obvious, the TLD's are perhaps the most radically different feature of the new system. Until now, our badges have contained x-ray film that was developed once every three months, after the quarterly badge exchange. This was necessary because the film had a limited lifetime and might not give an accurate reading if it were developed only once or twice a year. Like photographic film, its lifetime was also quite sensitive to extreme temperatures.

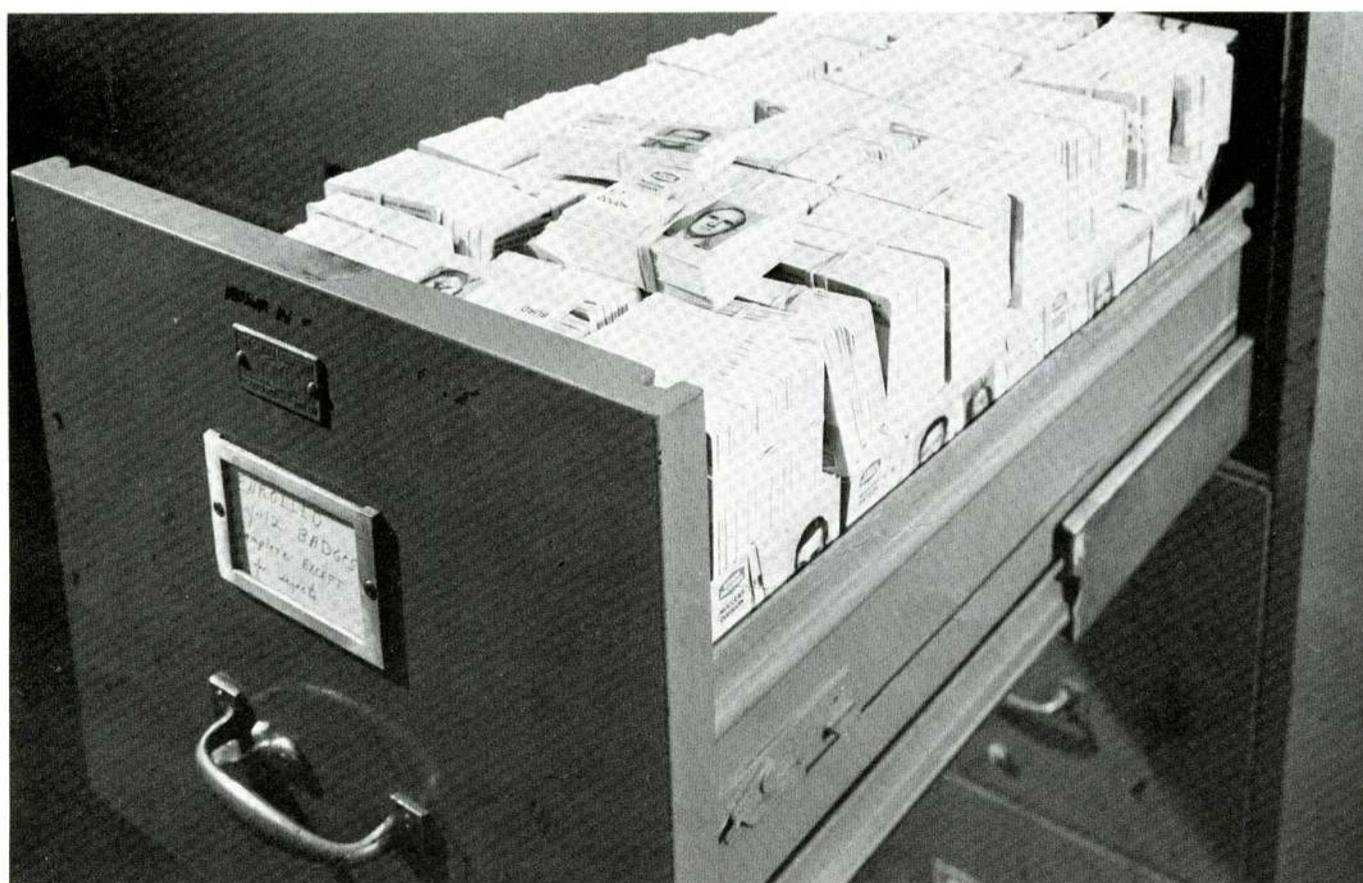
Annual exchanges

Further, under the old system, an entire set of duplicate badges—some 25,000—had to be stored and accounted for. New film had to be purchased each quarter, and a considerable amount of labor was involved in inserting the new film into the badges for the next exchange.

All of this will be largely changed with the use of the new TLD's. To begin with, they have a lifetime of several years and are reusable. This means that most of us—with the exception of a small number of employees who work in areas where they might be expected to encounter small amounts of radiation exposure—will be scheduled for an exchange just once a year. (The time and place will vary from site to site.) We'll be keeping the ID badge—the exchange will involve simply removing the health physics packet from the back of the badge and replacing it with a new one.



DRY RUN—Employees at ORGDP's Portal 4 have been testing the new system for several weeks. Here, Pam Cope runs her new badge through the reader as the guard checks her name and photo. Behind her is David Hill.



ABUNDANCE OF BADGES—Waiting to be alphabetized, the badges for Y-12 alone fill a file drawer almost to overflowing. Badges for all Nuclear Division employees plus on-site non-employees, such as those from Rust Engineering, number some 25,000.

80-0765

14 3033

or March distribution

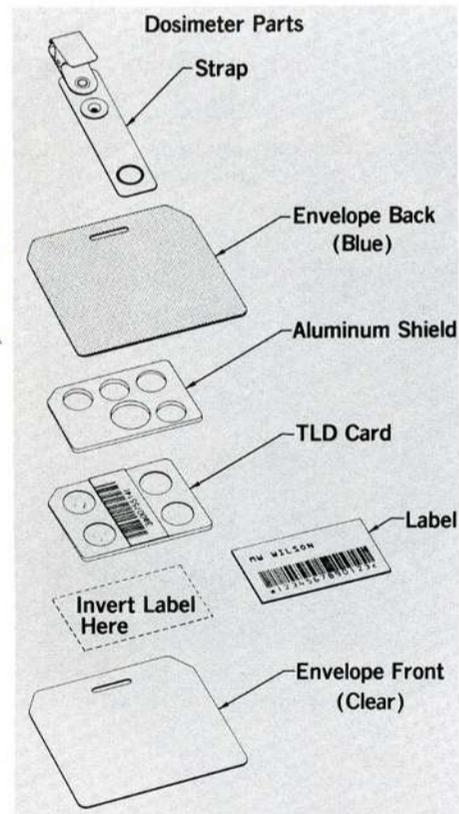
After each exchange, the used packets from all four sites will be sent to Y-12's Analytical Laboratory, where they will be opened and the aluminum cards loaded into an automated TLD reader. A computer will read the identification on each card and cross-match it to the employee to whom the card was issued, checking for a valid match.

The cards will then be electrically heated, releasing any electron energy that might have been trapped by exposure to radiation. The computer will calculate the exposure readings, then file and transmit them to the laboratory staff.

Heating the cards automatically "zeroes" them, making them ready for service again. Before it is returned for re-issuing, however, each card will be exposed to a known amount of radiation and re-read, to be sure it is measuring exposure accurately. The cards will be usable for several years before they must be replaced.

Badge readers coming

Along with the new badges will be coming another new feature: automatic badge readers, which over the next two years will be installed at all security access portals of all four plants. As employees enter the portals, they will pass their badges through a slot in the reader to verify their authenticity, supplementing the guards' visual matching of the employee with the photo on the badge.

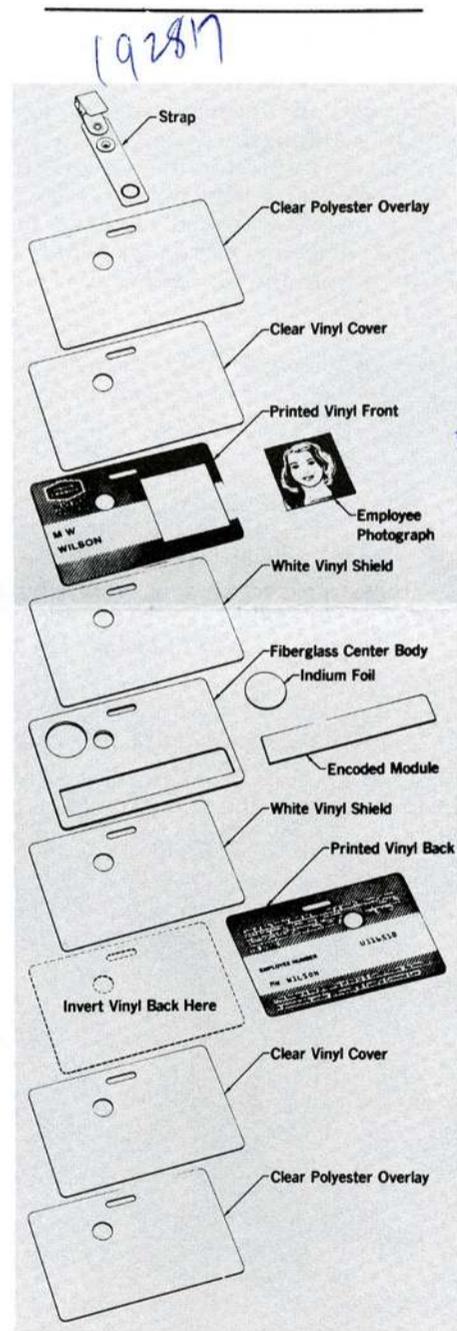


INSIDE THE PACKET—An exploded view of the health physics meter. The two TLD's (the tiny chips in the two left-hand circles on the TLD card) are oriented with respect to the badge so that one is aligned with the hole in the ID badge, to allow it to register beta and low energy x-rays. The other is filtered by the ID badge plus the one-sixteenth-inch of aluminum in the shield card, so that only higher energy gamma and x-rays are registered. With this arrangement, both superficial (skin) and depth (whole body) doses can be determined.

The badge reader system has already been tested at ORGDP's Portal 4. By the end of next year, readers should be in service at all portals at ORGDP and PGDP. They will be installed later at ORNL and at Y-12.

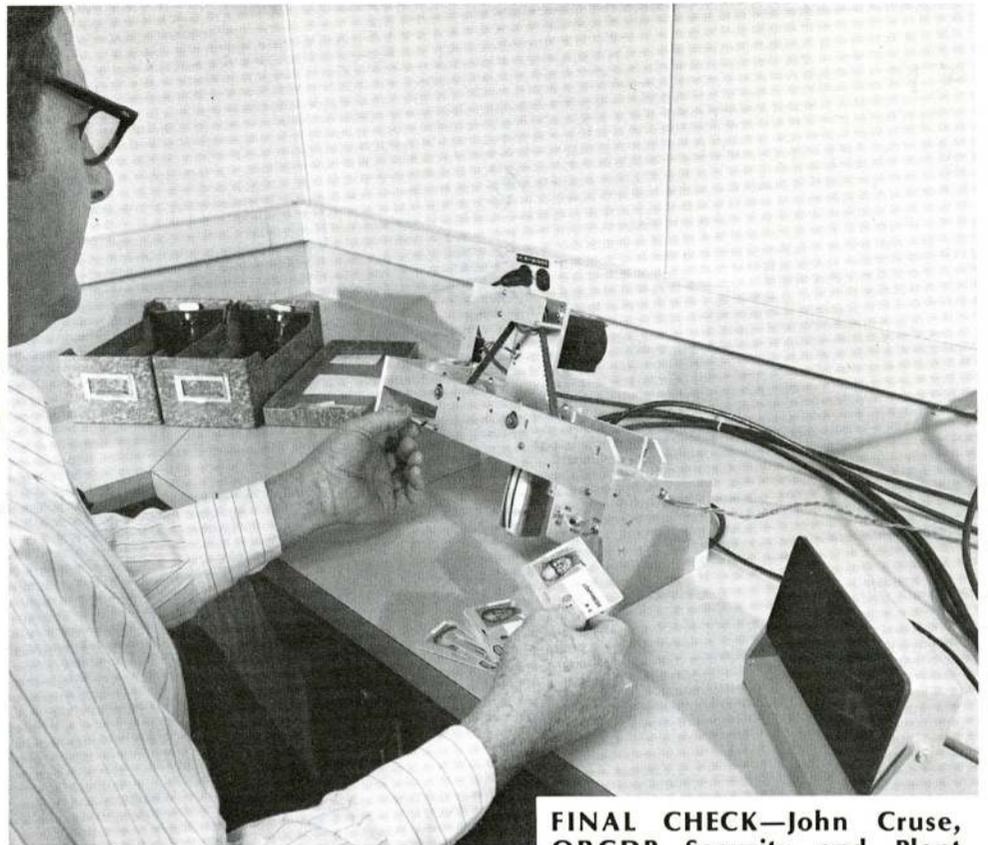
Only full-time employees may take their new badges home. All others will have badges bearing a black stripe, which indicates that the badge is to be left at the portal each time its owner leaves.

The Color Television Studio has produced a 12-minute videotape describing the new badging system, which is being shown to employees at all locations.

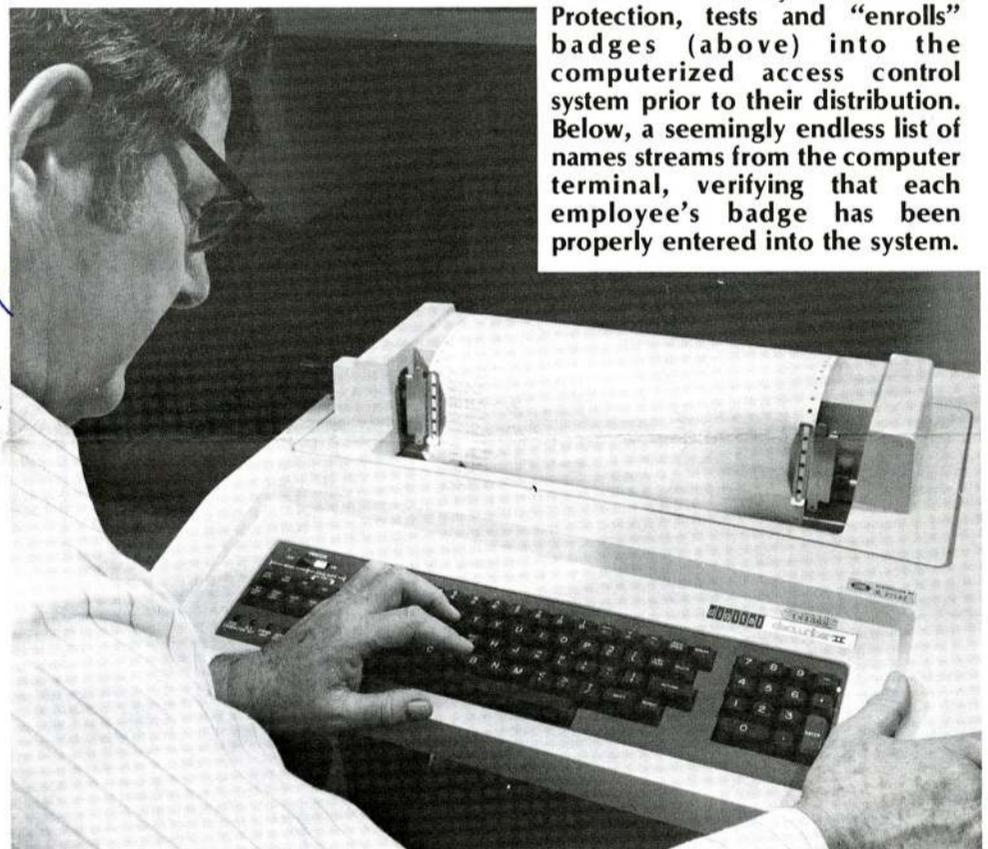


LOTS OF LAYERS—There's a lot more to the new ID badges than meets the eye, as can be seen in this "exploded" view. The circle of indium foil in the center of the badge is sensitive to neutron radiation and would allow an on-the-spot check for radiation exposure in the event of a nuclear criticality accident. (The TLD's, which measure beta and gamma radiations, are insensitive to neutron radiation.)

Those who have in a pinch used their old badges to scrape the frost off an icy windshield should pay particular attention to the fiberglass center layer of the badge: it can scratch glass!



FINAL CHECK—John Cruse, ORGDP Security and Plant Protection, tests and "enrolls" badges (above) into the computerized access control system prior to their distribution. Below, a seemingly endless list of names streams from the computer terminal, verifying that each employee's badge has been properly entered into the system.



READY TO READ—Randy Howell, right, and Ken Pickell of Y-12's Analytical Laboratory work with the automated TLD reader and its computer. The aluminum cards from the health physics packets will be loaded into the two chambers on the reader, just to the left of Pickell. Howell is stationed at a terminal of the computer, which will cross-match the identification on each card to the employee to whom the card was issued. The cards will then be heated inside the automated reader in order to calculate possible radiation exposure.

Road runner contest set March 22

Another Road Run contest is set for Clark Center Recreation Park Saturday, March 22. Check-in starting time is 8:45 a.m., with the race getting under way at 9 a.m. Medals will be presented to the first, second and third place finishers in each age division for men and women: Under 29, 30-39, 40-49, 50-59, and over 60. The winning team will be given a trophy. Tee shirts will be awarded to the first 200 who finish. Additional information may be obtained by calling Recreation, 4-1598.

Road Run Entry Form

Name: _____ Age: _____

Building _____ MS _____ Plant Phone _____

Team Name _____

Please fill out completely and return to the Recreation Office, Building 9711-5, MS-001, Y-12, before March 19.

Team winners take bowling trophies for recent tournament

Team honors went to the Team II, from K-25 Tuesday Men's League, as they posted a 3090 handicap tally on the boards. The team consists of Dan Charles, Don Blanton, H. D. Whitehead, Waldo Gollieher and Kyle Johnson. The Limits and City Slickers tied for second place with a 3070. The Mini-Strikes won the high scratch trophy, posting a 2766. They are Don Troutman, Harold Zang, Norm Shamblin, Joe Morgan and John Patton.

Women's team highs went to the Avengers, rolling a 3121 handicap total. They were the only team in the tournament to roll a 3100 series. They consist of Tillie Carden, Lynne

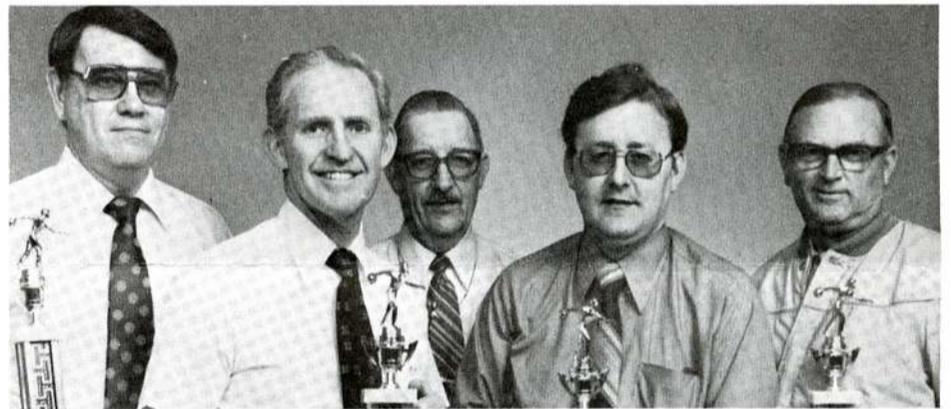
Hinton, Laura Walker, Martha Britt and Jody Walker. The Bill O'Kain Insurance team won second place, posting a 2991. The Tidy Bowlers won the team scratch trophy with their 2585 high score.

The Smooth Stokers, consisting of Mary Lee Johnson, Marvin Wilkerson, Jennie Saffel and Wayne McLaughlin, took the Mixed Team Event rolling a 2439 handicap series. Mack's Crackers finished in second place with a 2438. The Oops from the Family Mixed League took the scratch trophy with a 2151 score.

Individual winners will be shown in the next issue.



'WITHOUT TRYING' CAST—The Oak Ridge Playhouse production of "How to Succeed in Business without Really Trying" opens March 14, and continues through the 15, 21, 22, 23, 27, 28 and 29 at 8:20 p.m. at the Playhouse. Featured in the cast are from left, Anthony Wright, Pat Roth, Kathy Jenkins, J. T. Huffstetler, Vivian Baylor, Terry Kite, Mike Peacock and Vicki Hobson. A special discount ticket-theater combination has been arranged with the Alexander Motor Inn. Additional information may be obtained from the box office at 483-1224.



HIGH SCRATCHERS—The Mini-Strikes rolled a 2766 combined score to glean honors in the tournament. From left are Don Troutman, Norman Shamblin, Harold Zang, John Patton and Joe Morgan.



HIGH SCRATCH WOMEN—The Tidy Bowlers took top honors in scratch bowling for women, posting a 2589 tally. From left are Jean Zamzow, Mary Johnson, Berry Fields, Sally Stockstill and Shirley Groppe.



AVENGING AVENGERS—Taking top spot in women's team honors were the Avengers, rolling a 3121 handicap total. From left are Lynn Hinton, Martha Britt, Jody Walker, Laura Walker and Tillie Carden.



MIXED TEAM WINNERS—The Smooth Stokers took top honors in handicap scoring in the tournament with a score of 2439. From left are Marvin Wilkerson, Captain Mary Lee Johnson, Jennie Saffell and Wayne McLaughlin.



TEAM II IS ONE—Team II from the K-25 Tuesday Men's League took handicap honors in the recent All Carbide tournament, adding up a total score of 3090. From left are Kyle Johnson, Waldo Gollieher, Dan Charles, Don Blanton and Captain Dave Whitehead.

wanted. . .



ORNL

CAR POOL MEMBERS from Halls Cross Road, to East, West or North Portal, straight day. Floyd Long, plant phone 4-7084, home phone 922-1327.

RIDE from Emory Road, Oak Ridge Highway, Karns, to East Portal, straight day. Richard E. Mapes, plant phone 4-6090, home phone Knoxville 938-1716.

RIDE or FORM CAR POOL from Bull Run Steam Plant to Building 7505, two days a week. Tim Myrick, plant phone 4-6332, home phone 945-1275.

ONE or TWO CAR POOL MEMBERS from within or near the area bounded by Pennsylvania, West Outer, Highland and Hillside Avenues, Oak Ridge, to East Portal, 8:15-4:45. Tom Burnett, plant phone 4-6683, home phone 483-1975.

ORGDP

VAN POOL MEMBERS from Halls, Cumberland Estates, Norwood, Powell, Claxton areas, to Portals 2, 3 or 4, 4-12 shift. Andy Wallace, plant phone 4-8666, home phone 637-1719; or Ken Chittum, plant phone 4-8651, home phone 992-8374.

BUS RIDERS (New Route) from Norwood, Merchants Road, Clinton Highway, Claxton, to Portals 2 and 4, straight day. Walter Cowden, plant phone 6-0204, home phone 947-6777. . .also seats available on bus from Powell, Karns area.

RIDERS from Johnson or Normandy Rds. (or areas in between), Oak Ridge, to Portals 2 or 4; straight

days. Cathy Farmer, plant phone 6-0145.

RIDERS from Halls/Powell area to any Portal at ORGDP. Day shift. Contact Vic Crawford at 922-7697 and/or 4-8176.

BUS RIDERS from Loudon County, Lenoir City, and points along Highway 70 to Portals 1, 2, 3, and 4. Contact Bill Smith at 986-6706 and/or 6-0290.

BUS RIDERS from Cumberland Estates in West Knoxville, down the Oak Ridge Highway to Portals 2, 3, 4, & 7. Straight days. Contact Gale Helton at 690-3949 and/or 6-4601.

BUS RIDERS from Sweetwater through Philadelphia, Loudon, and Lenoir City to Portals 2, 3, 4, and possibly others. Contact E. R. Brewster at 458-2443 and/or 4-8520 or C. B. Henegar at 986-9469 and/or 4-8520.

Y-12 PLANT

JOIN CAR or VAN POOL from Gallaher Road at Poplar Springs Road intersection, to Biology Portal, 7:30 - 4 p.m. shift. Lowell Frye, plant phone 4-1822, home phone Kingston 376-9175.

RIDE from Edgemoor Road, Claxton, to Central Portal, straight day. J. P. Clark, plant phone 4-0243, home phone Powell 945-2013.

RIDE from Midtown area, Hill-Humphrey Grocery, Meredith Market, Midtown Highway 70 area, to Pine Ridge Portal, straight day. Helen H. Long, plant phone 4-2149, home phone 882-6767.

JOIN CAR POOL or VAN POOL from Cumberland Estates area, to North Portal, straight day. Gary Vanshuch, plant phone 6-4626, home phone Knoxville 523-2694.

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.

Credit union loans

QUESTION: Why is it so hard to obtain a credit union loan? It seems that they could loan members money at lower rates of interest than banks, loan associations, etc.

ANSWER: Credit unions are controlled by their Boards of Directors, not by Union Carbide. We did, however, refer this question to the four credit unions to obtain their answers. While their answers differed slightly, they all were fundamentally the same:

- 1) They do make loans at lower interest rates than banks.
- 2) Money is tight, and some types of loans have to be limited or denied (real estate, for example).
- 3) Some loans are denied because of the individual's credit standing.
- 4) Most loan applications (over 90 percent) are being approved.

For more specific information, you should talk directly to your own credit union.

Spouse insurance

QUESTION: If an employee's spouse is younger than he/she and the employee retires, will the spouse be covered by hospitalization and major medical until he/she reaches age 65 and is covered by Medicare? If not, what needs to be done to insure continued coverage?

ANSWER: If you retire early with a pension, you may continue coverage in the Basic Hospital-Surgical and the Major/Special Medical Plan for yourself and your family members until you reach 65 by enrolling and paying 50% of the cost of both plans.

If you retire at age 65 with a younger spouse, you may continue coverage for your spouse until he/she is eligible for Medicare by enrolling and paying the full cost of both plans.

If you die, coverage under the Company plans ceases at the end of the month in which your death occurs.

Radiation area taboos

QUESTION: What is Nuclear Division policy on women, either of child-bearing age or pregnant, working in radiation areas?

ANSWER: Women of child-bearing age are permitted to work in all areas of the plants and Laboratory. Permissible dose standards for occupational radiation exposure are the same for men and women. The dose limit for the fetus of a pregnant woman is more stringent. Nuclear Division policy requires all women to immediately report suspected pregnancies to their Medical Departments. The individual's work area will then be surveyed by the Health Physics Department to assure that exposure is minimal and within the recommended standards. If you desire more information, you may refer to your copy of the Nuclear Division's Safety and Health Handbook or consult with staff

members of your plant or Laboratory Medical and Health Physics Departments.

Medical insurance projections

QUESTION: Your December 27 issue tabulated the 1978 revenue and cost experience for the insurance plans. These indicated Blue Cross/Blue Shield received an excess of premiums paid (revenue) over the benefits paid (costs) by 10 percent. On the heels of this, a plant bulletin arrived announcing a 22.5 percent increase in cost in both the Major Medical and Basic Plans for 1980. Has the usage experience really turned around this much in one year? Are Blue Cross's projections for the future accepted at face value or is there an attempt to validate them?

ANSWER: The statistical insurance data for 1978, which appeared in the December 27 issue of **Nuclear Division News**, was for all employees, not just those insured by Blue Cross/Blue Shield of Tennessee. It also included data for Blue Cross/Blue Shield of Kentucky, which covers Paducah employees, and Union Mutual, which provides coverage to all Oak Ridge hourly employees.

Blue Cross/Blue Shield of Tennessee Basic Hospital and Major Medical experience shows costs increased 13 percent in 1978, 17 percent in 1979, and the projected increase for 1980 is 15 percent. This is the first time premiums have been increased since 1977.

The amount of increases and projections for the future are verified by our own independent calculations.

division death...



Mr. Nichol

Harry H. Nichol, a 33-year ORNL employee, died February 18 at Harriman. He was a department superintendent of maintenance in the Plant and Equipment Division.

He lived at 361 Seven Oaks Drive, Knoxville, and was a member of Concord United Methodist Church. Mr. Nichol served as water commissioner with the First Utility District.

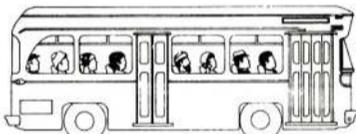
Survivors include his wife, Margaret N. and daughter, Elsa J., both of Knoxville; sons, H. Douglas, Knoxville; James N., Atlanta; and David W., Athens.

Services were held at Concord United Methodist Church.

In-plant buses, taxis provide transit service for employees

Need a lift? At any of the four Nuclear Division facilities, chances are good there's a bus or taxi driver going your way.

All four sites offer some form of transportation for employees who must travel between buildings. Specifically, the in-plant service for each location is as follows:



ORGDP—K-33 Loop bus offers continuous service from 8 a.m. until noon and from 12:30 to 4:15 p.m. Each full trip takes about 14 minutes.

The Rapid Taxi offers continuous service from 8 a.m. to 4:10 p.m. Each trip takes about 10 minutes.

Demand response taxi service is available for travel to and from locations outside the regular bus loops: call 4-8629.

ORNL—Two buses offer continuous in-plant service from 8 a.m. to 4 p.m. Each trip takes about 30 minutes, but since there are two buses, a bus arrives at each stop approximately every 15 minutes.

In bad weather, an additional bus is added from 11 a.m. to 1 p.m. to make the "inclement weather loop" between Building 4500N and the cafeteria. Each trip takes about 7 minutes.

PGDP—Seven buses are available to take employees to and from work stations that are not close to the plant entrance. Buses pick employees up at 15 minutes before the work hour (7:15 a.m. for the regular day shift) and return for them at the close of the shift.

Demand response taxi service is available anywhere in the plant from 7:30 to 11:30 a.m. and from noon until 3:50 p.m.: PAX phone 300 or radio Y-99.

Y-12—East Loop bus offers continuous service from 8 a.m. to 4:15 p.m. Each trip takes about 14 minutes.

West Loop bus offers continuous service from 8 a.m. to 4:15 p.m. Each trip takes about 19 minutes.

Between 11 a.m. and 1 p.m., a second bus is added to the east end to handle the increase in passengers during lunch periods. A second bus is provided for the west end during the same period as required, depending upon the number of passengers.

An internal ORNL shuttle provides continuous service for ORNL facilities at Y-12 from 8 a.m. to 4:15 p.m. Each trip takes about 15 minutes.

Demand response taxi service is available anywhere in the plant: call 4-0450.

QA — Addressing America's concern for quality

**Eugene A. Waggoner,
PGDP Quality Assurance Coordinator**

Many of those who have made a serious study of America's industrial production and product quality trends have become alarmed over the past few years. The productivity of the average American worker, compared to many of his foreign counterparts, has been on the skids. Coupled with the decline in productivity, other production costs have been on the rise, creating a serious problem in competing with foreign manufacturers.

It is also alarming that there has been the evidence of a decline in the average quality of many manufactured products, which has, in turn, led to buyers losing confidence in the reliability of many American-built products. This situation, when placed alongside the increased confidence of quality in a good portion of competing foreign goods, presents American industry with a serious challenge.

The conditions of lower productivity and poorer quality have not gone unnoticed by either management or labor. Strong quality assurance (QA) programs are now being developed in many industries across the country, including Union Carbide, to address the quality problem.

People directly involved in QA programs, including those people associated with the American Society for Quality Control, are convinced that, with the strong support of both management and labor, the quality picture can be greatly improved. QA professionals are also convinced that the turnaround in the quality picture will have a positive effect on productivity.

In the Nuclear Division, we feel that the QA program is cost effective and is achieving the goal of improving both quality and productivity. Measuring such results, of course, is very difficult in the type of output involved at our four sites; however, studies in production-line plants, using similar programs, have shown that the QA concept and practices provide a step in the right direction for American industry.

In his book, *Quality Is Free*, Philip Crosby says, "Quality is not only free, it is an honest-to-everything profit maker. Every penny you don't spend on doing things wrong becomes half a penny right on the bottom line. What costs money are the unquality things—all the actions that involve not doing jobs right the first time." (Crosby was a corporate vice president and is currently president of the American Society for Quality Control.)

For those who may not be fully familiar with the Nuclear Division Quality Assurance program, the following definitions should be reviewed:

Quality—Fitness for intended use. Any activity or specification requirements that go beyond making something "fit for its intended use" does not add quality and is probably not cost effective.

Quality assurance—The planned and systematic actions necessary to provide adequate confidence that a

structure, system, or component will perform satisfactorily in service. QA is a management planning function emphasizing prevention of quality-related problems.

Without detailing the mechanics of the QA program at Nuclear Division sites, we can summarize the basic activities as follows:

1. We seek to prevent serious quality failures through good planning (QA assessments and QA plans) and implementation.
2. If quality failures do occur, we seek to detect them early and take the necessary actions to prevent recurrence (quality investigations and systematic follow-up).
3. We conduct QA audits to provide assurance that the program is functioning within established guidelines and that quality objectives are being appropriately addressed.
4. We keep management informed of program activities, problem areas and progress on corrective actions.

Obviously, QA is involved in all phases of most projects, including technology development, project planning, design, procurement, fabrication, assembly, inspection, testing, installation, operation and maintenance. QA program guidelines have been published in QA manuals at the different sites.

Nuclear Division QA activities are under the direction of Ed Gambill, head of the Nuclear Division Office of Quality Assurance and chairman of the Nuclear Division QA Committee. QA coordinators and professionals are available at all sites to see that requirements are understood and that appropriate actions are taken with regard to quality considerations.

There are some potential pitfalls in QA that must be avoided and deserve being mentioned:

1. Requirements for excessive paperwork can smother the program, making it both ineffective and irritating. Some paperwork is essential, but a real effort must be made to keep it at a minimum.
2. QA will try to identify and prevent potential quality failures that could cause serious consequences. Nuclear Division routine practices and procedures should provide adequate protection from incidental deficiencies.

As noted in a policy statement in one of the plants, "It is plant policy to administer a cost-effective quality assurance program that places strong emphasis on minimizing significant quality failures through good planning.

If this type of commitment is made throughout American industry, the disturbing quality trend can be turned around. The resulting reduction in production costs would put the United States in a more competitive position in the world market place. The Nuclear Division intends to remain a leader in optimizing the use of quality assurance.



PROCLAMATION—Kentucky Governor John Y. Brown, center, has proclaimed this week "Quality Assurance Week." Gene Waggoner, representing the state chapter of the American Society for Quality Control accepts the governor's official document, as Joel Ellington, state representative from Kentucky's Fourth District, witnesses the presentation. Ellington, who assisted in promoting QA Week, is also a Paducah Plant employee.

anniversaries ...

ORNL 35 YEARS Hemma E. Comolander, Engineering Physics.	Williams, Plant and Equipment. 25 YEARS Ralph L. Stansbury Jr., Jane J. Massengill and Janice S. Trent.
30 YEARS Regina M. Anderson, Environmental Sciences; James F. Thompson, Plant and Equipment; Robert H. Chapman, Engineering Technology; Horace T. Murrin Jr., Plant and Equipment; Dewey S. Easton, Metals and Ceramics; Herman O. Weeren, Chemical Technology; and Emmett W.	20 YEARS James W. Skidmore, Robert E. Bohanan and Violet D. Wright.
	Y-12 PLANT 35 YEARS Margie M. Giles, Chemical Services.
	25 YEARS Bob G. Worthington.

Safety Scoreboard

Time worked without a lost-time accident through February 28:

ORNDP.....	24 Days	778,600 Employee-Hours
ORNL.....	122 Days	3,866,245 Employee-Hours
Paducah.....	280 Days	3,019,000 Employee-Hours
Y-12 Plant.....	86 Days	2,716,000 Employee-Hours



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