

Test series shows vessel strength

In a routine check of a hypothetical nuclear reactor, an inspector finds a hairline crack in the steel vessel that encloses the fuel core. Will it spread, and cause the vessel to fail before the next inspection? Just how serious a hazard does the tiny crack present?

For more than six years, researchers in ORNL's Engineering Technology Division (formerly Reactor) Division have been working to help the nuclear industry find answers to these kinds of questions by testing deliberately flawed steel pressure vessels under a variety of unfavorable conditions. The 11th vessel in the series—part of Engineering Technology's Heavy Section Steel Technology (HSST) Program—was tested last month. Grady Whitman is HSST program manager.

"The object of the ORNL tests," said Pete Holz of Engineering Technology Division, "is to demonstrate the accuracy of methods for analyzing how and why a vessel fails. Our test results then can provide regulatory and safety groups, professional code-writing groups and the nuclear power industry with guidelines for decision-making where flaws are concerned."

"The ORNL-imposed flaws are far worse than flaws that we would expect in actual operating systems," Holz added, "so the strength of the vessels under highly adverse conditions is demonstrated."

'ONRL-imposed flaws are far worse than flaws in actual operating systems.'

The 11 vessel tests conducted to date have shown that the steel vessels can contain very large flaws without failing, and that reactor experts can accurately predict when and how reactor vessels will fail—even when subjected to abnormally high pressures and adverse conditions.

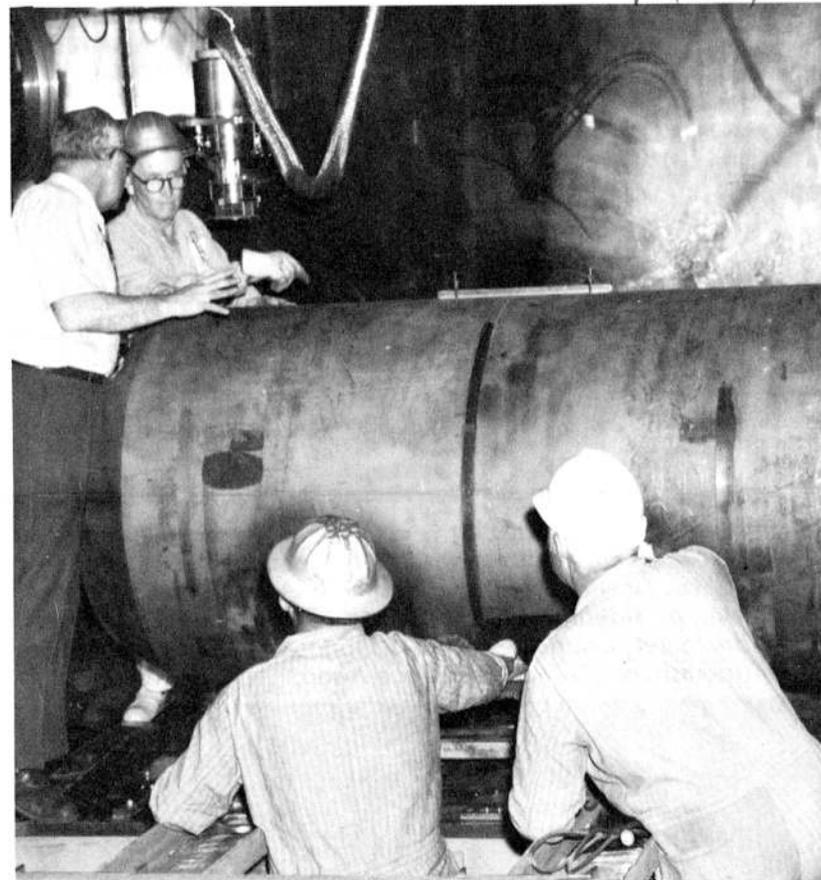
"ITV-8" (for Intermediate Test Vessel 8), the most recent in the series of vessels, was designed specifically to test a welding technique for repairing flaws "in the field"—without completely dismantling the reactor. During the test (which was carried out at -10 degrees F to reduce the metal toughness of the vessel, imitating the brittling effects of radiation) a deliberately imposed flaw in the weld-repaired region reopened twice, the second time cracking all the way through the wall. As pressure began to diminish, however, the crack resealed and held pressure—a surprisingly good result, showing that the steel vessels have even more inherent strength than researchers anticipated.

Labor Day holiday . . .

Monday, September 4, is an official holiday for all Nuclear Division employees. In observance of Labor Day, no employee will be required to be at work unless his/her presence is required by security or continuous operations.

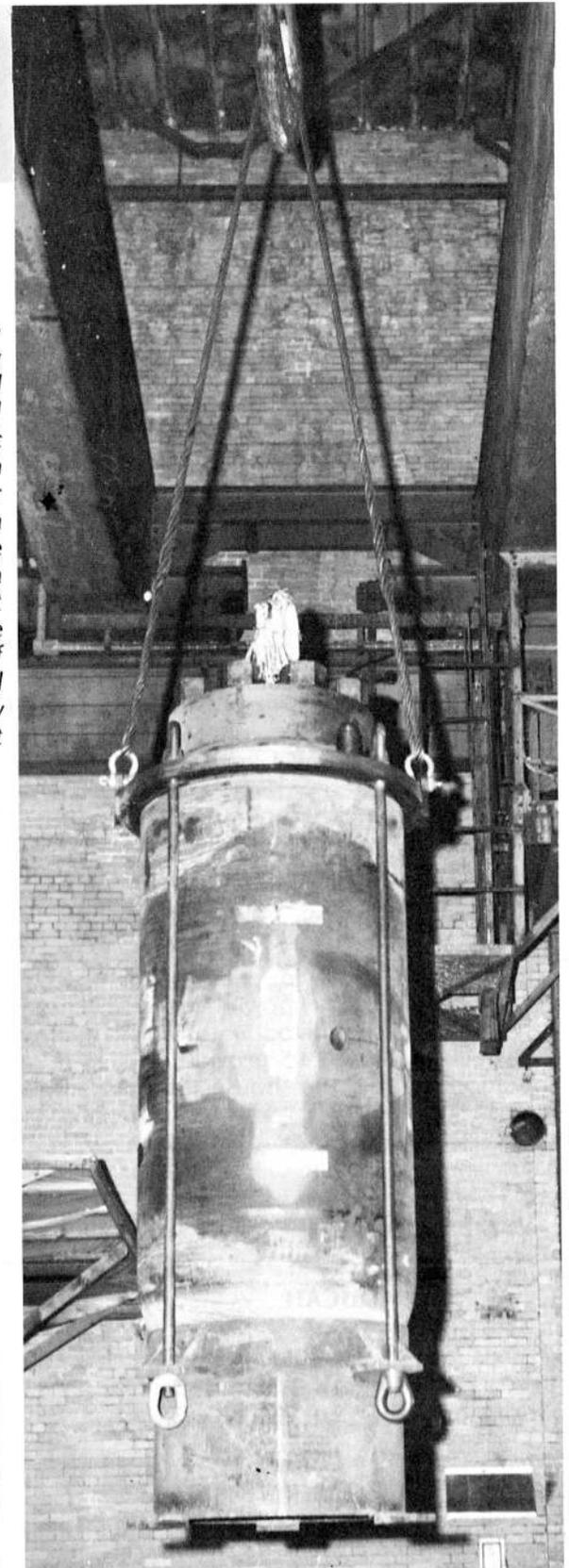


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THE FINISHING TOUCHES—Tom King of ORNL's Engineering Technology Division, lead technician for the pressure vessel testing program, applies a plastic coating to exterior strain gauges on a vessel being instrumented for tests. The gauges, only about a quarter of an inch long, are quite delicate and can be damaged by a fingernail scratch if left unprotected. Strain gauges are one example of the many kinds of instrumentation that outfit a vessel so that engineers can closely monitor what is happening to it during a test.



4146-74
POOLING RESOURCES—The vessel testing procedure represents a cooperative undertaking among the three Oak Ridge Nuclear Division facilities: although the program is ORNL's (under the auspices of the Nuclear Regulatory Commission) the flawing of the vessels is done at Y-12, and the actual pressurizing tests are carried out at the abandoned power house at ORGDP. Here, Y-12 employees prepare to sharpen a vessel flaw via electron beam welding.

AT YOUR SERVICE. . . Ever since he was 16 years old, Brian Lamb, communications lieutenant in the Laboratory Protection Division, had wanted to be a member of the Anderson County Rescue Squad, a United Way agency. In 1974 he turned 21—old enough to join—and that same year the age requirement was lowered to 18! Be on the lookout for the special United Way edition of the Nuclear Division News, which will come to your homes in September.



PH 78-2155
READY TO GO—Danny Allison of ORGDP's Mechanical Maintenance Department operates an overhead crane in preparation for lowering ITV-8 into the concrete test pit in Building K-702, the old power house. Inside the pit, which is covered by two 50-ton slabs of concrete during a test, the vessel will be cooled to -10 degrees F (to simulate the effect of radiation on vessel walls) and subjected to higher and higher internal water pressures until it fails.

Y-12 siren change

Effective Saturday, September 2, at 12 noon, there will be a new signal to replace the present immediate evacuation alarm in buildings equipped with radiation monitors in the Y-12 Plant. The new alarm will combine a mechanical sound and voice. The sound will be like the old auto horn "a-oo-ga" and the voice will say, "Evacuate to your assembly station immediately.... This is a radiation alarm..." with both phrases repeated.

During the week of September 4, following the usual announcement by the shift superintendent that a test will be conducted of the radiation monitors and immediate evacuation alarm, the new signal will be sounded providing those affected to hear the new alarm in their work areas.

ACES, solar homes cheaper to heat

Operating data from November 1, 1977, to May 1, 1978, show that the Annual Cycle Energy System (ACES) and solar demonstration houses used only 37 and 39 percent, respectively, of the energy required to provide space heating and hot water for a similarly-designed control house with a conventional electric-resistance heating system.

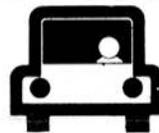
The control house required 14,880 kilowatt hours (kWhr), the solar house required 5,770 kWhr, and the ACES house required 5,500 kWhr of electricity.

The houses are part of the Tennessee Energy Conservation in Housing (TECH) project located in Knoxville. The solar house is operated by the University of Tennessee Environment Center, while experiments in the ACES and control houses are conducted by ORNL staff.

ACES uses a large insulated tank of water as an energy storage bin. During the winter, a heat pump draws heat from the water to provide hot water and warm air, simultaneously freezing the water into ice. In the summer, the ice is used to provide air conditioning.

In addition to saving about 60 percent on electricity last winter, the ACES house accumulated 57 tons of ice which was used to provide air conditioning for the house until August.

wanted...



PADUCAH

Ride from vicinity of 22nd and Clay, off Park Avenue, straight days to C-100 Parking Lot. Ruth Godbold, Data Processing, Bell 253 or 221, PAX 8331.

Y-12 PLANT

CAR POOL MEMBER from Norris to Biology Portal, straight days. Bonita Elmore, plant extension 3-7451, home Norris 494-7508.

ORGDP

SHARE RIDE from West Knoxville, States View Road subdivision, to Portal 2 or 4, 7:45-4:15 shift. Singla, extension 3-3031, home phone Knoxville 690-8950.

VAN POOL RIDERS WANTED from Karns, to any portal, straight days. Tom Lemons, plant phone 3-9870, home phone 947-8959.

RIDE or JOIN CAR POOL from Ball Road in West Knoxville, to Portal 5, D Shift. Jack McKinney, plant phone 3-3476, home phone 690-1888.

ORNL

RIDE WANTED from West Town Estates or Francis Road, Knoxville, to East Portal, straight days. Brad Weil, plant phone 3-0448, home phone 693-7503.

JOIN or FORM CAR POOL from Bexhill Subdivision area, off Ebenezer Road west of Knoxville, to East Portal, 8 or 8:15 shift. David Kaserman, plant phone 3-0436, home phone 693-2326.

VAN POOL RIDERS from West Knoxville, I-40, Papermill Road exit area, 8:15-4:45. Ray Pearson, plant phone 3-1805, home phone 588-9949.

RDDE WANTED from between Karns and Solway to East Portal, 8-4:30 or 8:15-4:45. Sigfred Peterson, plant phone 3-1451, home phone 690-3980.



MULTIPLE AWARDS—The Y-12 Plant gleaned top honors at the recent annual safety awards luncheon. Accepting the plaques for all employees are, from left, Jack M. Case, plant manager; Charles R. Robinson, vice president of the International Guards of America, Local Three; Terry Calhoun, recording secretary of ATLC; and Clarence E. Johnson, safety director for Y-12. Case holds UCC's Distinguished Safety Performance Award; Truitt has the Department of Energy's Award of Excellence; and Calhoun and Johnson share the National Safety Council's Award of Honor. "The plaques belong to all of us," plant officials stated, "for it is through the effort of each employee that 1977 was such a good year for us."



ORNL'S BEST YEAR—1977 was the best year ORNL has had in the area of safe working conditions. ORNlers worked more than 8,000,000 employee hours without a lost-time injury. Accepting the honors for all Laboratory employees are Doyle M. Davis, Health, Safety and Research Division; Frank R. Bruce, associate director for administration; Norman L. Beeler, president, Atomic Trades and Labor Council; and Herman Postma, ORNL director. The plaques were the National Safety Council's Awards of Honor; the Department of Energy's Award of Achievement; and Union Carbide's Distinguished Safety Performance Award.



ORGDP HONORS—Employees at ORGDP gleaned honors at the recent safety luncheon. From left are B.I.V. Bailey, safety director, holding the National Safety Council's Award of Honor; Rick D. Hughes, United Plant Guard Workers Union Local 109, holding the Department of Energy's Award of Achievement; Robert A. Winkel, plant manager; and R. D. Boone holding the Distinguished Safety Performance Award from Union Carbide. Boone represents the Oil, Chemical and Atomic Workers Union Local 3-288.

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
May 78	14.7179	40.3989	8.3523
June 78	14.8230	39.0223	8.2219
July 78	14.9286	38.0276	8.6217

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.

Start September 12...

Advanced beginners swimming lessons

Swimming lessons for advanced beginners will be offered by the American Red Cross on Tuesdays and Fridays from 8:30 to 9:30 p.m., starting September 12. The six-week course will be held at the Civic Center pool in Oak Ridge. Interested persons may enroll by contacting the Anderson County Red Cross, 483-5641, or Curt Webster, 3-6279 or 483-8970.

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.

Professional dues

QUESTION: Other companies where I have worked had plans in which they pay for an employee's membership in professional societies such as IEEE, ASME, NSPE, etc. These fees often run \$50 or more a year. Union Carbide claims to encourage professional development among its employees, but has no similar plan. Does Union Carbide have an intention of implementing a plan to reimburse employees for professional dues?

ANSWER: The Nuclear Division is indeed committed to the professional development of its employees. This commitment is carried out through a variety of programs; for example:

- 1) the Company underwrites part of the cost of continuing university education;
- 2) in-house training is provided with Carbide and specialized external resources;
- 3) employees are given an opportunity to present technical papers and to participate in technical meetings, courses and workshops sponsored by professional societies and universities.

The Company also encourages participation by its employees in the affairs of technical societies including arrangements which permit employees to serve as local, state and national officers in these societies. We believe, however, that as a rule each individual should pay his/her own professional society membership dues, thereby making the society responsive to its membership rather than to the companies for which they work.

Selling products

QUESTION: An employee in the ORGDP Materials Division delivers catalogs and accepts orders for these products during working hours. Is this not against Company policy?

ANSWER: It certainly would be. "You at Union Carbide" clearly specifies that unless authorized by the plant manager, all employees are forbidden to solicit, sell tickets, collect, transact any business or indulge in any activity not related to their employment on Company time.

If you will provide specific information to your supervisor, steps will be taken to make certain that the kind of activity you describe is stopped.

Company stores

QUESTION: I would like to know why the Y-12 Company Store has gotten in such a run-down condition. Most of the items on display are "out of stock" and evidently are not being replaced, and no new items are being added. From what I hear, the stores at ORNL and ORGDP are not like this. I realize this is just one of the Company "benefits" but it would be nice to

have the store as full of items as it once was.

ANSWER: The question of Company Store inventories was answered in our column of June 8. The allegation of "run-down" condition is, we presume, a personal opinion of conditions during the stock readjustment period, for actually the store operation and facilities have not changed and are comparable to the other installations. Aside from our objective to reduce overall inventories, problems with the availability of stock from suppliers, shipping schedules, etc., will occasionally result in depleted stock of some items.

UCC savings plan

QUESTION: Re: Carbide's Savings Plan. "You at Union Carbide" states: "Each month, Union Carbide adds 10, 20 or 30 cents to each dollar of your basic deduction, depending on your years of company service credit." It's my understanding that the amount of money Carbide contributes is based on the length of time the individual participates in the plan. If the booklet is correct, an employee with 20 years' company service—but a first-time participant in the plan—would be entitled to maximum contributions by the Company. Which is correct?

ANSWER: Your understanding is incorrect. The amount of Carbide's payment depends on your company service credit, not on the length of time an employee has participated in the plan. An employee with 20 years' service, but a new participant in the plan, would be entitled to 30 percent payments.

division deaths...

Marvin H. Huskey, Y-12 Beta 2 Chemistry, died August 12 in a Knoxville hospital. A native of Grainger County, he joined Union Carbide in 1953, after serving with the U.S. Army in Korea and during World War II. He worked briefly at Cherokee Textile Mills.

Survivors include his wife, Myrtle DeBuck Huskey, Route 5, Everett Road, Lenoir City; daughter, Louise Bartlett; three grandchildren; and his mother, Mrs. Emma Ogle.

Funeral services were held at Weaver's Chapel, with burial in Edgewood Cemetery.



Next issue. . .

The next issue will be dated **September 14**. The deadline is **September 6**.

Lotts director for nuclear fuel and waste programs at ORNL

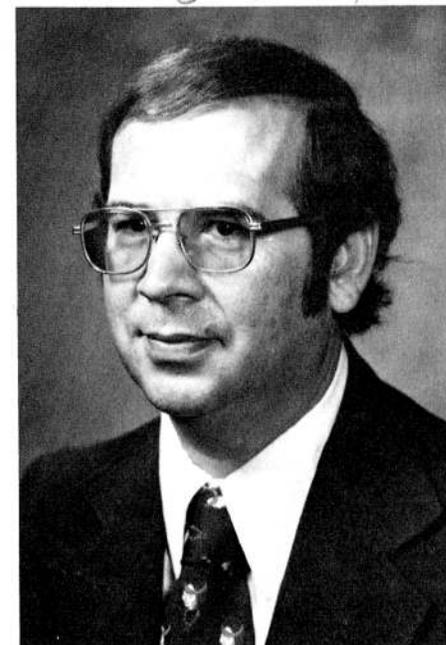
The appointment of Adolphus L. "Pete" Lotts as program director for nuclear fuel and waste programs at ORNL has been announced by Donald B. Trauger, associate director for nuclear and engineering technologies.

Lotts, manager of the Laboratory's High Temperature Gas-Cooled Reactor (HTGR) Fuel Recycle Program since 1973, also was associate director of ORNL Gas-Cooled Reactor Programs and has managed programs for refabrication of light-water-reactor and fast-breeder-reactor fuels.

New responsibilities

His new assignment will include overall direction of the Laboratory's nuclear waste management activities, which involve research and development, on-site waste operations development, technical support to other DOE contractor organizations and program management for DOE. In addition, he will continue his present responsibility for HTGR fuel recycle and programs associated with nuclear fuels development.

In making the announcement, Trauger noted that ORNL now is involved in nearly all areas of the DOE program concerned with the treatment and isolation of radioactive wastes produced in various applications of nuclear energy. "Creation of this new position, consolidating responsibility for waste-related activities, recognizes the importance of providing optimum systems for the handling and storage of these materials," he said.



Adolphus L. Lotts

Lotts joined the staff of the Metals and Ceramics Division in 1959, where initially he organized the remote fabrication group and managed work in fuel cycle technology. He holds BS and MS degrees in metallurgical engineering from Virginia Polytechnic Institute and State University.

Awards recipient

In 1976, he was the recipient of the E. O. Lawrence Memorial Award presented by the former Energy Research and Development Administration for outstanding contributions in the field of atomic energy.

Lotts and his wife, Grace, live at 849 Chateaugay Road, Knoxville. They have four daughters.

Weber named to four-plant environmental analysis post

Charles W. Weber has been named four-plant coordinator of environmental analysis and will chair the committee which promotes uniformity of environmental analytical methodology within the Nuclear Division. This committee has been producing the Environmental and Effluent Analysis Manual of tested and accepted methods that are compatible with governmental regulations and individual plant and laboratory requirements and capabilities.

Weber will also oversee the quality control programs related to these analytical functions and serve as liaison with DOE and other agencies on the effectiveness and future requirements of analytical measurements. In his assignment, Weber will report to James C. White, Technical Services manager.

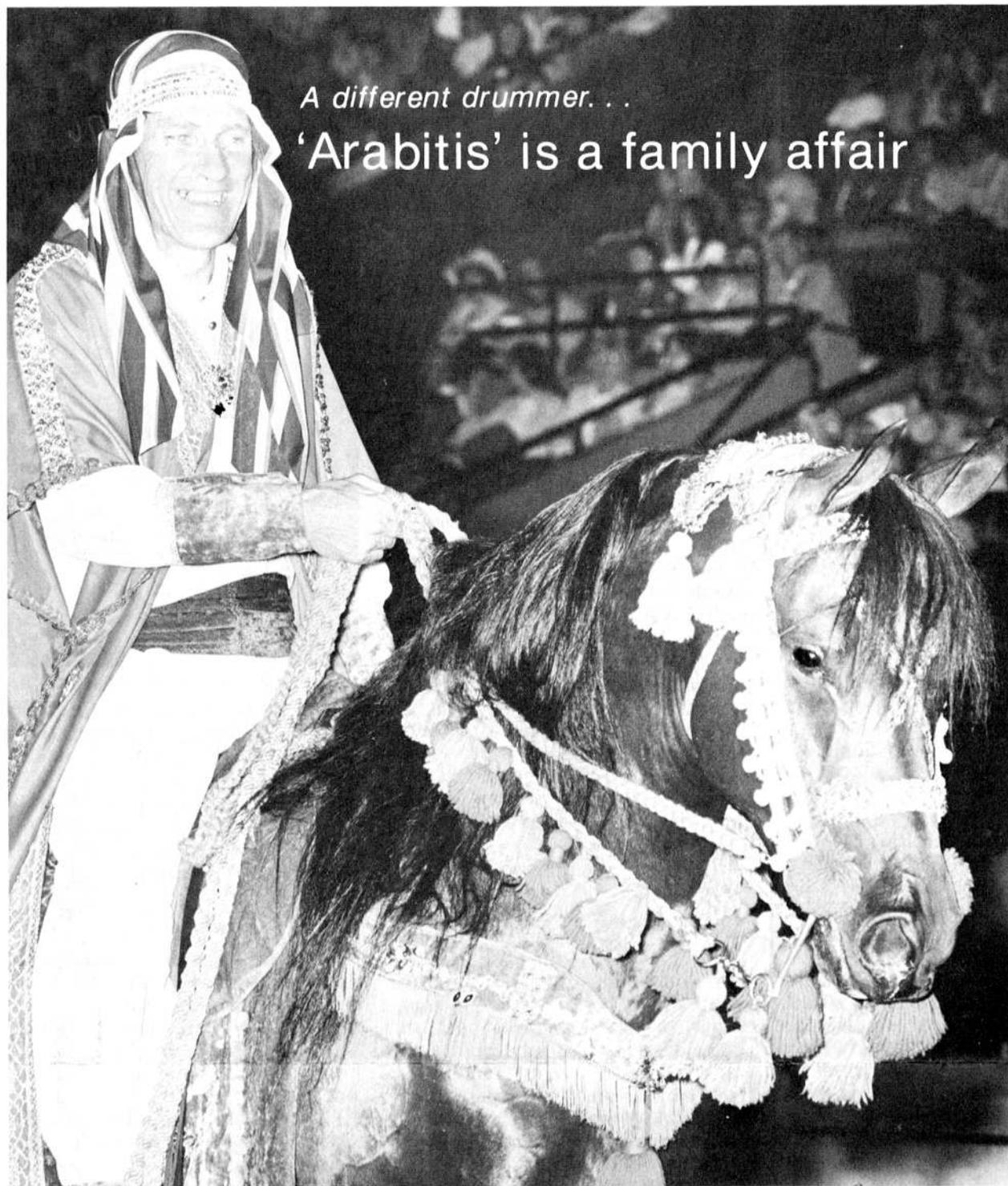
Paducah bowling. . .

Women bowlers have formed a 1978-79 bowling league at the Paducah Plant. There are 10 active teams consisting of four bowlers per team. They bowl every Thursday at Cardinal Lanes, and awards will be given at the end of the season. Other interested women bowlers may call Jan McElya, at Bell 393.



Charles W. Weber

A native of Illinois, Weber completed his BS in chemistry at Northwestern University after serving four years in the U.S. Navy. He earned his PhD in analytical chemistry from Indiana University, and joined Union Carbide in 1953. His memberships include the American Chemical Society, Sigma Xi, Phi Lambda Upsilon and the American Institute of Chemists. He and his wife, Phyllis, live at 1021 West Outer Drive, Oak Ridge. They have three children, Kathy, Paul and Andrew.



A different drummer. . .
 'Arabitis' is a family affair

Editor's Note—J. L. Finchum, an electronics technician in ORNL's Instrumentation and Controls Division, has been raising champion Arabian horses on his farm in Maryville, Tenn., since 1972. The many championships have not been listed, because this story is not about winning trophies—it's about a team effort of the Finchum family.

By J. L. Finchum

One hot July day in 1972 our five-year-old son came running to me, saying, "Daddy, Daddy, you can buy a pony for \$10." David had been talking to his grandfather again. According to Grandfather Finchum, you just haven't been a boy until you've owned a horse. He just happened to have a \$10 pony at his farm the next time we went to visit.

'I felt like a little boy with a new red wagon on Christmas morning.'

I said no to David that day. Our three-quarter acre lot in the suburbs was no place for a horse. Today, the ribbons and trophies which fill our house remind me of that half-hearted "no" six years ago. David got the little pony he fell in love with, and close behind came a 10-year-old walking horse mare and foal for my two daughters.

Feeling left out, I soon purchased a four-year-old-bay stallion named Nizzima for myself. Bought sight unseen, it could have been a disaster. Instead, it was an introduction to the wonder of Arabian horses.

When they unloaded him, I couldn't believe my eyes. He was big, bold and beautiful, with a coat that shone like new money. I felt like a little boy with a new red wagon on Christmas morning.

The total came to four horses, and we still lived in a subdivision. The next obvious step was to buy a small farm, build a barn and put up a lot of fence.

It was fast becoming a family affair. Everyone had a horse except Mother. So that fall, June bought our first purebred Arab mare—a beautiful little bay, which was to foal the next May. By the time the foal was born, we had read every book, magazine and clipping we could find about Arabian horses. The whole family had "Arabitis."

'Nothing can overshadow the pride and pleasure of riding Nizzima into the show ring at the National Championships with 30 other champion horses.'

Few pieces of art can ever compare to the beauty of the Arab stallion. It is the only purebred horse in the world, and all pedigrees can be traced back to Egypt or Saudi Arabia. This desert heritage can be seen in many of the Arabian's characteristics. Its small stomach, for instance, allows it to live on about half the feed and water of other breeds; perfect for a sparse, dry desert existence.

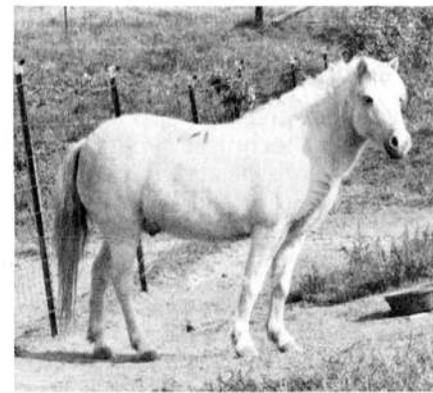
The horse business is not all blue ribbons. We don't win every race, and every foal is not a prize show horse. But our love for raising and training Arabians isn't locked up in the stables at the end of each day. We can share our experiences and understand each other in a way many families might find difficult. Each member of the family has a part in something we all do together.

'Each member of the family has a part in something we all do together.'

We know that our long hours of hard work won't make us wealthy. The money we make goes back into the horses, barn and farm. Satisfaction? Yes! It's well worth it when I see the love and compassion for a tired horse in my daughter's eyes, or see my



Clockwise from left: **J. L. Finchum and stallion** display native Arabian costumes at the 1976 Arabian Nationals in Louisville, Ky., where **Nizzima** won the National Three-Mile Trotting Race. . . **Nizzima**: "He was big, bold and beautiful, with a coat that shone like new money." . . **Thunder**, the original \$10 pony, enjoys the life of retired leisure on the Finchum's 7½-acre farm in Maryville, Tenn.



son win his first blue ribbon in a large horse show. It's worth the sleepless nights when I look into my wife's eyes after a three-hour struggle, in 10 degree weather, to get a newborn foal on his feet—and he finally stands and nurses. It's worth all the time and training when I ask my tired Arabian to reach way down in his desert heritage and muster enough strength to gallop the last mile of a long endurance race. Finally, nothing can overshadow the pride and pleasure of riding Nizzima into the show ring at the National Championships with 30 other champion horses from all over the United States.

The future probably holds more work, more horse shows, more races, and more study to breed a better Arabian horse. And someday, just maybe, I can look at one of my grandchildren and say, "You can buy a pony for \$10."

NUCLEAR DIVISION

NEWS

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4124-78



Dickens named to ORNL post

J. Kirk Dickens has been appointed technical assistant to Alexander Zucker, ORNL associate director for the physical sciences.

Dickens, a member of the Laboratory's Engineering Physics Division since 1962, has been involved most recently in nuclear physics measurements used to establish standards for safe operation of nuclear power plants.

In his new assignment he will assist in the administration of physical-research programs supported by more than \$40 million annually in funds provided by DOE and other federal agencies.

Dickens' research has included work on charged-particle elastic and inelastic scattering, neutron scattering and interactions, gamma-ray measurements, and analyses of energy releases from products of the nuclear fission process.

As a member of the American Nuclear Society's standards subcommittee on decay heat, he was instrumental in the formation of a new standard based on ORNL experimental data which provides information needed to assess the consequences of a hypothetical loss-of-coolant accident.

Dickens holds the AB and PhD

Division total up to 118. . .

Six Certified Professional Secretaries

Another six Nuclear Division secretaries have been named Certified Professional Secretaries (CPS), bringing the Division total to 118. A total of 73 were certified in Tennessee in 1978.

Represent three plants

Those receiving certification this year include: Barbara G. Arrington, ORNL Energy Division; M. Louise Bentley, Central Employment; Helen G. Corbett, ORNL Chemistry Division; Judy M. Keeney, Y-12 Development Division; Brenda K. Shelton, ORNL Analytical Chemistry Division; and Chloris O. Starlin, ORNL Electrical and Instrument Engineering Department.

The Institute for Certifying Secretaries, under the National Secretaries Association (NSA), has set the requirements for certification, which include working in an actual secretarial position. There are six topics covered in the certifying examination: accounting, economics, business-oriented psychology, secretarial procedures, efficiency and setting work priorities, and business law.

24 college credits

Fulfillment of the requirements and subsequent passage of the CPS examinations carry 24 college credit hours which can be applied toward a bachelor's degree. Membership in NSA is not a requirement in the certification.

degrees from the University of Southern California, the latter in nuclear physics, and the MS from the University of Chicago.

Dickens and his wife, Marcy, live at 367 Jefferson Avenue, Oak Ridge. They have four sons, Alan, Leonard, Steven and Michael.

Arrington joined Union Carbide in 1967. She attended East Tennessee State University and the University of Tennessee. A native of Cullman, Ala., she is married to Gene Arrington, who works at ORGDP. They live at 100 Brentwood Drive, Oak Ridge, with their son, Darrell.

Bentley, a native of Knox County, has been with Union Carbide more than eight years. She attended Knoxville Vocational Educational classes and also took the CPS courses at Oak Ridge High School. She and her husband, Charles, live at Route 2, Powell. They have three children, Barbara, Charles Jr. and Katherine Mayo.

Corbett was born in Indiana, Penn., and worked for the Indiana Manufacturing Plant two years before joining Union Carbide in 1970. She and her husband, Bernard (he's in ORNL's Operations Division) live at 111 Greenbriar Lane, Oak Ridge. They have two sons, Mike and Tim.

Keeney, a native of Johnson City, came to Y-12 three years ago, after working at ORNL 10 years. She is married to Dale Keeney, who is in Y-12's Engineering Division. They live at 403 Hickory Street, Clinton, with their sons, Steve and Derek.

Starlin is a native of Williamson County, Tenn., and is a graduate of the Jordan Vocational School. She joined Union Carbide in 1952 after doing clerical work in Columbus, Ga. Starlin and her husband, Charles, who is in ORNL's Quality Assurance and Inspection, live at Route 2, Powell. They have two children, Ralph and Barbara Halliburton.

Shelton joined Union Carbide nine years ago in the Computer Sciences Division, transferring to Analytical Chemistry in 1976. Shelton spent one year at Tennessee Technological University and is presently attending Roane State Community College. She and her husband, Mark, live at 236 Alhambra Road, Oak Ridge. They have a son, Stephen.

PGDP secretaries finish course

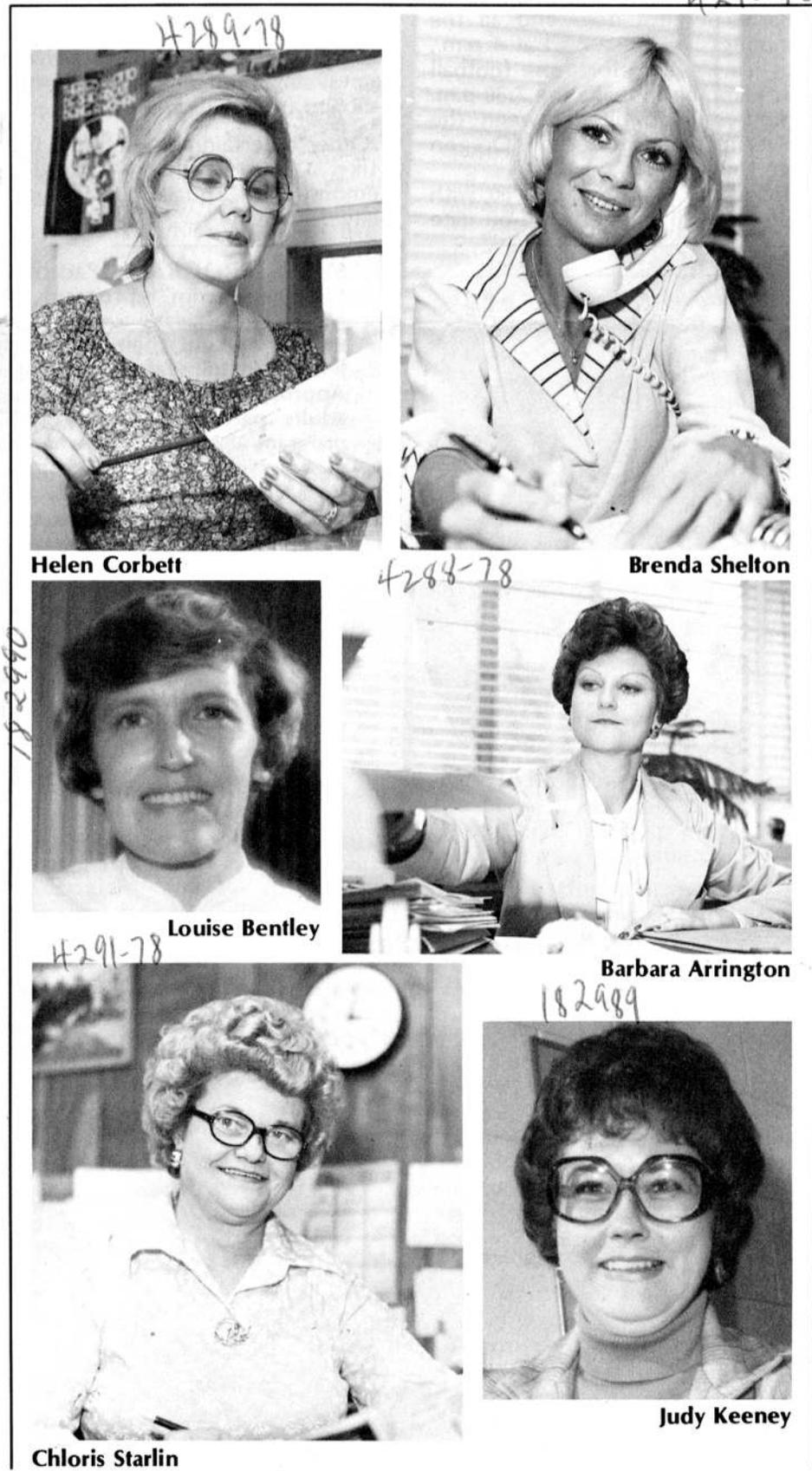


CERTIFICATE HANDOUT—Mary Lou Gholson, right, coordinator for the Paducah clerical/secretarial training program, issues certificates of completion to the final graduating class. Each participant was required to complete 17 and one-half hours of instruction. Standing from left are Barbara Wilkins, Betty Green, Carol Ballard and Ladino Lee. Seated are Martha Cates, Celestia Aldrich, Kathy Smith and John Henry Jones.

The Paducah Plant recently completed a series of clerical/secretarial training sessions designed for employees with five or less years company service. The program, designed and implemented by Mary Lou Gholson and Betty Lester, concentrated on the Nuclear Division Office Guide along with general plant information and services.

Representatives from each division

within the plant conducted sessions on such topics as corporate structure, Paducah operations, benefits, purchasing, mail and reproduction, accounting procedures, security regulations, the Office Guide, affirmative action and human relations. The complete training schedule consisted of five half-day sessions with graduation upon completion of the program.



4289-78



Helen Corbett

4290-78



Brenda Shelton



Louise Bentley



Barbara Arrington



Chloris Starlin



Judy Keeney

PH76-2589



PH77-3823



Hootenanny, barbecue Sept. 23

The 15th Annual Hootenanny Barbecue for ORGDP employees and friends has been scheduled for Saturday, September 23, Clark Center Recreation Park. Activities begin at 1 p.m. and will continue into the evening hours.

Barbecue, hot dogs and all the trimmings will be served at 4 p.m., thus leaving time for those football fans planning to make the 7:30 p.m. kickoff in Knoxville between the University of Tennessee and Oregon State University.

Tickets go on sale August 30, with September 20 being the cut-off date

for purchasing tickets. Tickets are \$3 for adults and \$1.50 for children under 12.

Activities will include the annual softball tournament, horseshoes, basketball, volleyball, shuffleboard, badminton, egg throwing, pie throwing and the hole-in-one. For the children there will be organized games, magic and puppet shows, and a clown.

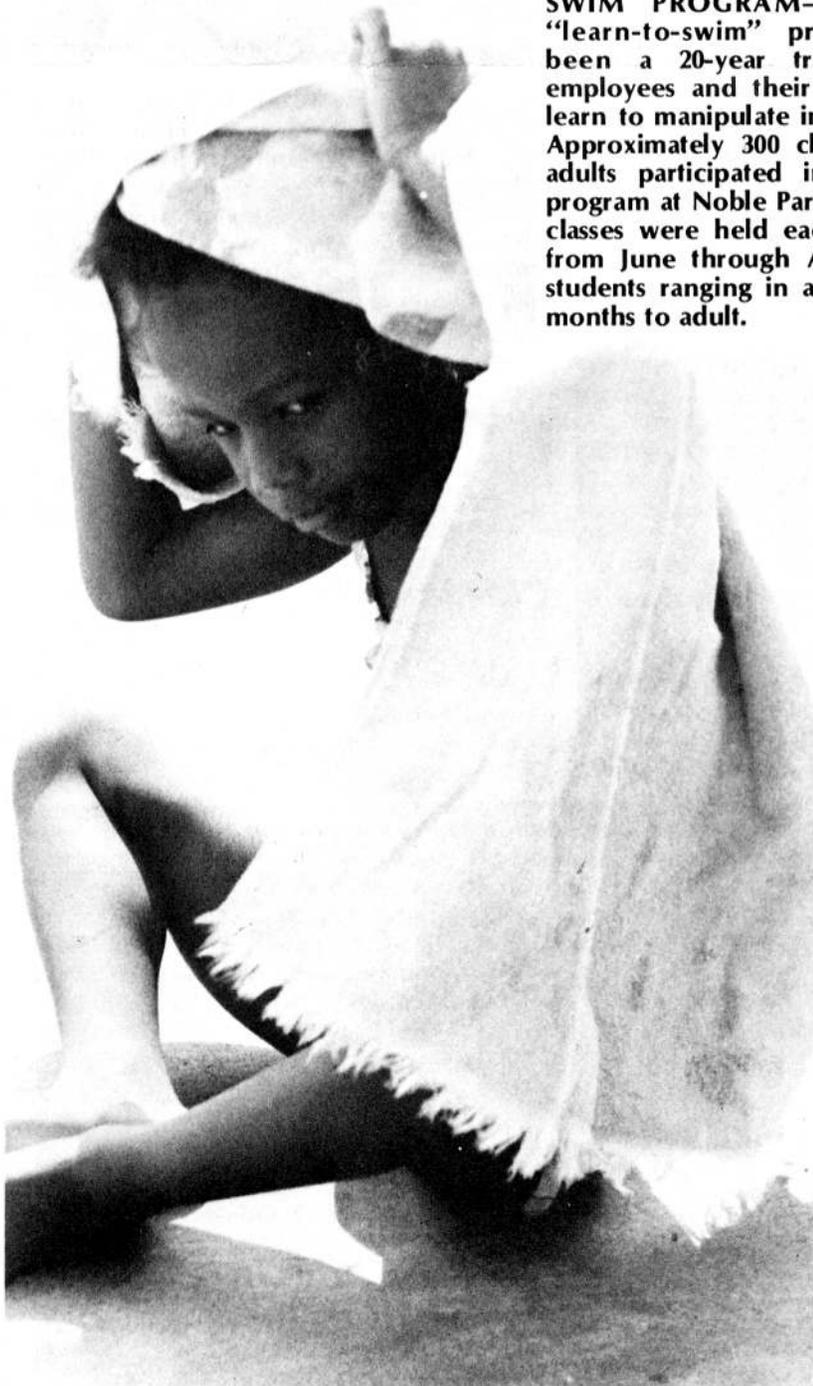
Other entertainment includes the Mike Garrett Band, a clogging demonstration, square dancing and belly dancing.

Firewood cutting canceled

Oak Ridge Operations of the Department of Energy has decided to discontinue the practice of public woodcutting on DOE-controlled property in Oak Ridge. The decision is based primarily on the concern for safety of individuals engaged in woodcutting with its inherent and well-recognized hazards. While many woodcutters are experienced and highly proficient with hand and power tools used for cutting wood, others are not, subjecting themselves to potential, serious injury.

DOE cannot assume the responsibility for selecting only certain individuals to participate in the woodcuttings based on a judgment as to their experience or proficiency, and therefore potential for their sustaining injury. While a waiver with respect to liability could be required from all woodcutters, as has been done in the past, this presents serious problems of policing the activity and does not absolutely protect against legal action in the event of injury.

SWIM PROGRAM—Paducah's "learn-to-swim" program has been a 20-year tradition for employees and their families to learn to manipulate in the water. Approximately 300 children and adults participated in the 1978 program at Noble Park Pool. Two classes were held each Saturday from June through August with students ranging in age from six months to adult.



safety scoreboard

Time worked without a lost-time accident through August 24:

Paducah	13 Days	156,000 Employee-Hours
ORGDP.....	140 Days	4,541,000 Employee-Hours
Y-12 Plant.....	134 Days	4,204,000 Employee Hours
ORNL.....	221 Days	5,244,290 Employee-Hours

Division deaths. . .

John C. Southerland, Maintenance Division at the Oak Ridge Gaseous Diffusion Plant, died August 22 at the



Mr. Southerland

Oak Ridge Hospital.

He joined Union Carbide in 1974, and was a veteran of the U.S. Army. The Southerland home is in Norris.

Survivors include his wife, Anna Allison Southerland, a son, Mark and a daughter, Cheryl; and sisters, Lilly and Nancy Huddleston and Mrs. Isabell.

Funeral services were held at the Holley-Gamble Chapel, with burial in Anderson Memorial Gardens.



Mr. McCollum

Beryl W. McCollum, ORGDP Barrier Development, died July 11 at the Oak Ridge Hospital. He joined Union Carbide at ORNL in 1952, transferring to ORGDP in 1959.

He was a veteran of the U.S. Marines, serving in the Pacific during World War II.

Survivors include his wife, Jaunita Wolfe McCollum; daughters, Shirley Brown and Karen Miller; sons, Brian and Joe; and five grandchildren.

The funeral was held in the Biereley-Hale Funeral Home, Madisonville, with burial in the New Hope Cemetery.

Five promoted at ORGDP

Five promotions have been announced at ORGDP. R. D. Carter and R. Michael Newell have been named pilot plant supervisors in the Separations Systems Division; Jerry R. Rutherford has been made supervisor in the Toll Enrichment Department of the Operations Division; and Randy Glover and Michael S. Ratledge have been made power operations supervisors in the Operations Division.

Carter joined Union Carbide 10 years ago at Y-12. He was a senior laboratory technician in research and development before transferring to ORGDP in 1975.

The Coalfield native and his wife, Sharon Ann, have two sons, Richard Jr. and John. They live at Route 1, Harriman.

Newell, a native of Burnside, Ky., joined Union Carbide at Y-12 eight years ago. He transferred to ORGDP in 1974.

Newell and his wife, Jodell, live at 205 Sheridan Place, Oak Ridge, with their sons, Michael and Christopher.

Rutherford joined Union Carbide in 1973. He has worked in computing center set-up and uranium accounting. An Oak Ridge native, he and his wife, Tilda, have two daughters, Kimberly and Kerri. They live at Route 15, Bisco Drive, Knoxville.

Glover was born in Bristol, Va., and has been with Union Carbide two years. He and his wife, Sylvia, live at 4216 Cadillac Drive, Powell. They



Carter



Glover



Newell



Ratledge



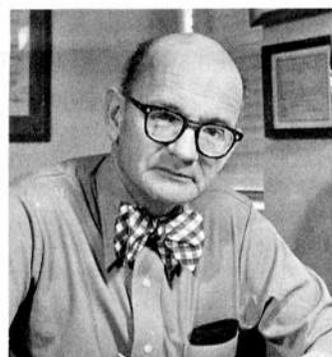
Rutherford

have three children, Lydia, Mitzi and Scott.

Ratledge, a Maryville native, has been with Union Carbide four years. He and his wife, Sandra, live at 1309 Hidden Hills Drive, Clinton.

patent granted. . .

To Frederick B. Marcus, ORNL, for "Air Code Poloidal Magnetic Field System for a Toroidal Plasma-Producing Device."



Cooling heartburn. . . the safe way

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 20, Y-12, or call the news editor in your plant, and give him or her your question on the telephone.)

Acid indigestion and peptic ulceration seem to be an inevitable accompaniment of our competitive society. More than \$160,000,000 is spent annually on antacids to cool the heartburn of millions of sufferers. Although this treatment is generally safe, a few people who consume aluminum-containing antacids over long periods of time may lose appreciable amounts of calcium from their bones.

Many common brands of antacids contain aluminum hydroxide or a mixture of aluminum hydroxide and magnesium hydroxide. Tablets which effervesce and some other highly advertised tablets contain calcium carbonate (chalk), magnesium carbonate, magnesium trisilicate or just plain soda.

Dr. Herta Spencer, who is in charge of metabolic research at the Veterans Administration Hospital in Hines, Ill., is concerned about the long-range effect of aluminum on calcium and phosphorus metabolism. The aluminum in antacids binds

phosphorus from the diet so it is not as easily absorbed. Normally, phosphorus is absorbed readily from the intestine, and deficiencies in this essential element are rare.

An adequate intake of phosphorus is necessary to prevent loss of calcium from the bones. When aluminum antacids are taken, phosphorus is not adequately absorbed, and the depletion which gradually occurs results in an increase in calcium excretion in urine as well as stools.

If sufficient calcium were eaten, it might be possible to compensate for some of the loss. Calcium

replacement is a much greater problem after age 55, especially in women, because of a decline in sex hormones. Decalcification of bones (called osteomalacia) is fairly common in older women. It occurs much less commonly in men, but is still not rare. Antacid therapy, especially in those past middle age, may therefore aggravate an already declining calcium metabolism.

Another way to prevent the loss of phosphorus might be to supplement the phosphorus intake. However, most of the phosphorus would probably get bound by the aluminum in the antacid. Nevertheless, phosphorus supplementation in the diet is now being studied.

Another solution would be to avoid aluminum-containing antacids altogether. Unfortunately, calcium carbonate, magnesium carbonate and other non-aluminum antacids also have undesirable side effects which may be hazardous with prolonged or excessive use. Probably the most hazardous antacid is plain baking soda. After exerting an immediate antacid action in the stomach, it is absorbed and affects the acid-base balance in the blood. A secondary and delayed effect may be greatly increased secretion of acid in the stomach.

The effectiveness of antacids in promoting healing of peptic ulcers or effectively treating nervous indigestion has been seriously questioned by a number of investigations. Their ability to temporarily reduce pain and discomfort is unquestioned, but they don't seem to do much for the basic problem. The effect of most antacids lasts only a short time, and the idea of forming a protective coating in the

stomach is only an advertiser's gimmick.

Recent studies comparing the effectiveness of cimetidine—a relatively recent addition to the drug treatment of peptic ulcers and antacids—do suggest, however, that antacids may have a more involved function than just relief of pain. Anyone who attempts to review the medical literature on the treatment of peptic ulcer or to study the pharmacology of antacids will find it an extremely confusing tangle of conflicting reports.

Peptic ulcers and cases of nervous indigestion are influenced by a great many factors. Many patients with a peptic ulcer will heal promptly if just put in a hospital on a regular diet and given no medicine. Just placebos (sugar pills) will help many patients with nervous indigestion.

The psyche is a powerful and fantastically complex influence on physiology. When angered, frustrated or frightened, the mind frequently punishes the body by increasing the secretion of acid in the stomach by a factor of two to seven times. It also reduces the effectiveness of the natural protective coating of mucus and increases the motility of the stomach. The latter causes acid to be dumped into the first part of the duodenum before being neutralized by bile and pancreatic juices. This increased motility is an important factor in many cases of peptic ulcers.

Prolonged and continuous use of antacids should be avoided or should be guided by careful medical supervision. Occasional use for relief of pain after emotional stress or a dietary or alcohol indiscretion is safe and reasonably effective.

Y-12 promotions

anniversaries



Barnes



Garrison



Ralston

Three promotions have been announced at the Y-12 Plant. Arnold A. Barnes and Johnny C. Ralston have been named planner-estimators in the Fabrication Division; and James R. Garrison has been made a mechanical inspection supervisor in Physical Testing.

Barnes joined Union Carbide in 1970. He is a native of Orme, Tenn., and did sheet metal work in construction before coming to Y-12. He and his wife, Linda, live at 7301 Evanel Way, Powell. They have two sons, Brent and Keith.

Garrison is a native of Crossville. He joined Union Carbide in 1969 after graduating from the Training and

ORGDP



Rathbone

Rohland

Herman D. Rathborne, Shift Operations Group, joined Union Carbide August 24, 1943, at Charleston, W. Va., transferring to ORGDP a year later. He lives at 102 Pleasant Road, Oak Ridge.

John H. Rohland, Engineering, joined the Y-12 Plant September 14, 1943. He transferred to ORGDP in 1972. Rohland lives at 104 East Malta Road, Oak Ridge.

30 YEARS

Roger W. Anderson, Gaseous Diffusion Development; and Jack R. Cunningham, Fabrication and Maintenance.

Technology Project. He lives at 217 Norcross Drive, Knoxville.

Ralston was born in Jacksboro, and worked in the LaFollette Sheet Metal Company before coming to Y-12 in 1969. He has three children, Rhonda, Amy and Chris, and lives at 604 Randolph Street, Clinton.

25 YEARS
Betty P. Brown, Lynn F. Lockett, Lewis M. Koon, and Walter T. Carter.

Y-12 PLANT



Cox

Miller



Turner



Woods

Everette C. Cox, a native of Clinton, came to Y-12 September 22, 1943, after working for Bush Brothers Cannery and Hendrickson's Store. He is in Y-12's Materials Forming Department, and lives at Route 6, York Street, Clinton.

Katherine L. Miller, also a native of Clinton, joined the Manhattan Project August 26, 1943, after working for the National Youth Administration and in the family grocery. She lives at 614 Eagle Bend Road, Clinton, and is in Y-12's Buildings, Grounds and Maintenance Shops.

Dave Turner, a captain in Y-12's Fire Department, came here September 30, 1943. A native of Pennington Gap, Va., he lives at 6625 Central Avenue Pike, Knoxville. He is a graduate of Hiwassee College and taught school in Lee County, Va., before coming to Oak Ridge.

Astor A. Woods, a native of Campbell County, is in Y-12 Process Maintenance. He came to Y-12 September 10, 1943, and lives at Route 3, Clinton.

30 YEARS

Arthur J. Stewart, Chemical Services.

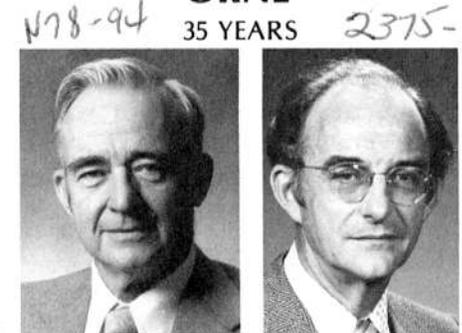
25 YEARS

Peter B. Kohler, Bascom S. Turner, Hubert E. Parrott, Lloyd Johnson, Emery J. Yearwood, Hugh M. Jeffreys, Archie A. Stacy, Robert W. Miller, Zane L. Ardary, James L. Morgan Jr. and Marshall N. Ward.

20 YEARS

Sam Moore, Carl F. Butler, Elmo E. Robbins and John C. Poland.

ORNL



Caldwell

Ketelle

R. Leo Caldwell joined Tennessee Eastman at Y-12 on September 25, 1943, working on the pilot plant for magnetic separation of U-235. In 1948 he transferred to the Chemical Technology Division at ORNL, where he is a calutron operating supervisor. Caldwell lives at 115 West Magnolia Lane, Oak Ridge.

Bruce H. Ketelle's company service began October 4, 1943, at the University of Chicago, where he worked on the Columbia University project which led to the gaseous diffusion plants. In 1944 he came to Clinton Laboratories' Chemistry Division, where he worked as assistant division director from 1961 to 1973 and as a research staff member. Ketelle lives at 197 Outer Drive, Oak Ridge.

30 YEARS

Oliver W. Ross Jr., Computer Sciences; Robert W. Schaich, Operations; Carroll W. Piper, Plant and Equipment; Aloysius A. Palko, Chemistry; and John R. Sites, Analytical Chemistry.

25 YEARS

Joseph D. Pendleton, John R. Engel, Eugene B. Patton Jr., Hugo W. Bertini and Tom B. Fowler.

20 YEARS

Eugene Newman Jr., Patricia R. Hunsicker, John E. Bigelow, Eugene J. Kelly, Hal M. Butler, Eugene H. Perkins, James B. Ball, Harry C. Young, Ellsworth H. Grell and Samuel E. Moore.



'EMILY'—a portrait by ORNL's Terry L. Marlar, took a second place in the 1978 Southeastern Professional Photographers Association competition. It also was accepted for exhibit at Caesar's Palace in Las Vegas by the 1978 National Professional Photographers Association. Marlar is an industrial photographer in the Metals and Ceramics Division.

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