

Nuclear Division News



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

Vol. 7, No. 5/March 4, 1976

Zerby to head new Office of Waste Isolation staff

ERDA's program detailed

The Energy Research and Development Administration has announced plans to embark on an expanded national program leading to safe, terminal storage of nuclear wastes.

The national effort, directed by ERDA's Division of Nuclear Fuel Cycle and Production, will include research, development and demonstration efforts to accomplish the following:

- Conduct a national survey of multiple geographic locations with differing geologic formations to determine the best possible sites for terminal storage facilities for wastes generated by the commercial nuclear power plant industry.
- Construct the first pilot demonstration underground storage facility in a dry bedded salt formation to store ERDA-generated plutonium contaminated wastes.
- Develop the processing and packaging techniques for different types of waste in a form acceptable for delivery to a terminal storage facility, with an immediate task of selecting processes to convert the high-level liquid wastes into a solid form, such as glass or concrete.
- Carry out a management program to process and control high-level liquid wastes safely at three major ERDA facilities and to move rapidly forward to more permanent solutions for these wastes.
- Conduct an in-depth evaluation of current operational practices at ERDA land burial sites for low-level wastes, including development of criteria for selecting future burial grounds and for correcting undesirable conditions should they appear at existing ERDA grounds.

Acceptable environmental approaches

The program is designed to find acceptable technical and environmental approaches for the ultimate storage of this waste through geologic investigations and technology demonstrations in various geologic formations at several locations in the United States. Under current federal regulations the private nuclear fuel reprocessing plants which generate the commercial waste may not retain the wastes for more than 10 years. These plants are not expected to be operating until the late 1970's and the 1980's.

Reporting to Oak Ridge Operations Office through a contractual arrangement will be a new Office of Waste Isolation, Nuclear Division. Approximately \$35 million is earmarked in FY 77 for this geological investigation program.

Multiple storage facilities planned

ERDA plans to demonstrate multiple terminal storage facilities in various regions of the U. S. Thus it would not be necessary for one area to service the entire country as a waste site.

Geological formations to be studied and evaluated include: bedded salt in western and mid-western states; dome salt in Gulf Coast states; shales, which are widely distributed over the country; and a wide variety of granite and other crystalline rocks and volcanic formations.

Clayton D. Zerby, who has been active in Union Carbide Corporation research and development programs for many years, has been named to head a newly established Office of Waste Isolation in Union Carbide's Nuclear Division.

The new office has been established as part of a major program of the Energy Research and Development Administration (ERDA) for assuring the future availability of terminal storage facilities for receiving radioactive wastes generated by the nuclear power industry.

The Office of Waste Isolation will be staffed initially by waste management specialists from Nuclear Division facilities. The office is ultimately expected to number approximately 40-50 persons.

Multiple locations

Under contract to ERDA's Oak Ridge Operations, Union Carbide's new office will conduct a national survey of multiple geographic locations in the U.S. with differing geologic formations to determine the best possible sites for terminal storage of high-level wastes. Private nuclear fuel processing plants which generate the commercial waste may not retain the waste for more than 10 years. These plants are not expected to be operating until the late 1970's and the 1980's.

In a program designed to find technical and environmental approaches for the ultimate storage of this waste, ERDA plans to demonstrate multiple storage facilities in various U. S. locations. Thus it would not be necessary for one area to service the entire country as a waste site.

Geological formations to be studied and evaluated include: bedded salt in western and mid-western states; dome salt in Gulf Coast states; shales, which are widely distributed over the country; and a wide variety of granite and other crystalline rocks and volcanic formations.

Technical manager

The Office of Waste Isolation will utilize the expertise of regional and local companies, universities, organizations and state and federal agencies for establishing the suitability of the various geological formations.

Zerby has been technical services manager for the Nuclear Division's production facilities in Oak Ridge since 1974. In this position he has been responsible for the coordina-



Clayton D. Zerby

tion and management of technical services, including analytical laboratory, inspection, certification, quality assurance and personnel and environmental monitoring at the Oak Ridge Y-12 Plant and the Oak Ridge Gaseous Diffusion Plant.

Zerby has been with Union Carbide Corporation since 1950 when he joined the staff of the Oak Ridge National Laboratory where he served as engineer, physicist and group leader. He left the Laboratory in 1963 to become group leader in the development department of Union Carbide and, in 1965, was named director of technology for Carbide's defense and space systems department. He was named manager of that department the following year.

KORAD manager

In 1967 he became manager of the systems planning department, and later that year was named general manager of the KORAD department with responsibility for the development and manufacture of lasers.

Zerby became President of Ocean Systems, Inc., an affiliate of Union Carbide, in 1971. When Ocean Systems was sold in 1973, he was appointed President of Domsea Farms Inc., a Carbide subsidiary, which is a salmon breeding facility located in Bremerton, Wash.

CIT graduate

Zerby received his bachelor of science degree in mechanical engineering from Case Institute of Technology, Cleveland, Ohio, in

(Please turn to page 8)



Harms honors Boch

inside ...

Nuclear Division employees gleaned several awards during Engineers' Week festivities recently. Award presentations are seen on page 4.

Other features:

- Paducah promotions page 3
- Lecture series page 5
- Medicine Chest page 7

A day in the woods . . .

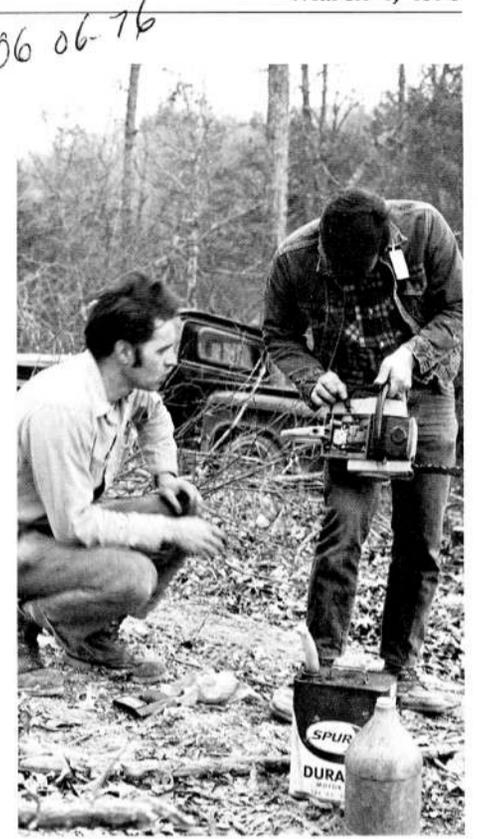


. . . is the perfect way to get some fresh air and exercise and to work off all that excess energy stored up over the winter at the same time! If you need a good excuse to get out, another firewood cutting will be held next Friday and Saturday, March 12 and 13.

Prospective woodcutters should meet between 8 and 10 a.m. on either day at the intersection of Bethel Valley Road and Laboratory Road, by the old Scarboro School, to purchase a permit and be directed to the area where the cutting will take place. Price of the permit is \$5 for each individual or family for an entire day. Once the permit is purchased cutters are free to come and go, loading and unloading firewood.

For more information, contact Dennis Bradburn, director of the Forest Management program at Oak Ridge National Laboratory, at extension 3-1266.

An ORNL photographer showed up at the most recent firewood cutting and snapped the accompanying photos of woodcutters hard at work replenishing that woodpile for next winter. On the left, Nathan C. Crutcher, Fabrication and Maintenance, Oak Ridge Gaseous Diffusion Plant, tackles the fallen logs and loads his pickup truck with the day's "harvest." At right Dennis Bradburn gives a cutter a hand with a balky chainsaw. The saw was fixed, and no one went home emptyhanded.



retirements



Donahue



Thurman



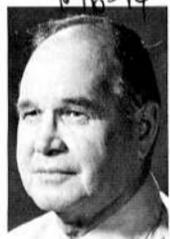
Harlan



Roddy



Scarbrough



Honeycutt



Horton



Hasting



Braden

February 1 marked the retirement date for two Y-12ers, Roy L. Donahue and Frank A. Thurman.

Donahue, Tool Grinding, elected early retirement after 14 years service. He lives at Route 3, Corryton.

Thurman, Chemical Services, has more than 31 years with Union Carbide. He also chose early retirement, and lives at 115 Newberry Circle, Oak Ridge.

Six additional Y-12ers retired at the end of February.

Hubert B. Harlan, Assembly Division, has 31 years company service. He lives at 230 South Purdue Avenue, Oak Ridge.

Jerry C. Hasting, Plant Protection Department, came to Y-12 in 1947. He lives at 525 West Vanderbilt Drive, Oak Ridge.

Kenneth L. Honeycutt, H-1 Foundry, has more than 25 years with Union Carbide. He lives at Route 3, Harriman.

Milo A. Horton lives at 406 Wallace Street, Lake City. He has been in Y-12's Buildings, Grounds and Maintenance Shops more than 23 years.

Carl H. Roddy, supervisor of Plant Records, came to the Y-12 Plant in 1943. He lives at 710 Forest View Road, Knoxville.

Harold D. Scarbrough lives at Route 4, Rockwood. A member of the stores department, he has been in Y-12 more than 21 years.

Three Oak Ridge National Laboratory employees were among Nuclear Division retirees at the end of February. All took early retirements. Thomas Braden, a laborer in Plant

and Equipment Division, retired after nearly 18 years company service. His home is at Route 2, Oliver Springs.

Reginald Etheridge ended more than 29 years of employment here. A timekeeper in Finance and Materials Division prior to his retirement, he lives at 117 East Pasadena Road, Oak Ridge.

Laura Moss joined the Nuclear Division staff in 1951; she was a secretary in Biology Division. She lives at 107 Nasson Lane, Oak Ridge.

Gladys D. Adams, assistant librarian at the Paducah Gaseous Diffusion Plant, is taking early retirement. A native of Tennessee, she joined Union Carbide in 1944 and transferred to Paducah in 1951.

Two Oak Ridge Gaseous Diffusion Plant employees are added to the growing retirement rolls.

Wendall P. Harris, Fabrication and Maintenance Division, has been with Union Carbide 26 years. He lives at Route 1, Kingston, and retires at the end of this month.

Herbert G. Rosander, also of the Fabrication and Maintenance Division, retired at the end of February. He has been with UCC since 1946, and lives at 102 Virginia Street, Kingston.

Roy L. Donahue, Y-12's Tool Grinding Department, retired at the end of January. He came with Union Carbide in 1961, and lives at Route 3, Corryton.



Braden



Etheridge



Adams



Moss



Harris



Rosander



Donahue

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0604-76

PH 76-363

PH 76-346

76-18

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.

Calendar 'art' ?

QUESTION: I have just received my 1976 Bicentennial calendar for the K-25 Plant. Why are the pictures of women and blacks out of proportion to the plant population?

ANSWER: Safety and good housekeeping make up the general theme for the 1976 ORGDP calendar. The photographs were intended to depict the diverse activities and some of the protective clothing and equipment that are provided. Numerous photographs had been submitted by each of the divisions for possible use. It was not our intent nor was a deliberate effort made to feature women and/or blacks.

Following receipt of your question, we counted the pictures and compared them to the employee population. Results are given below.

Pictures of women, black and white, are out of proportion to their representation in the total work force. Pictured men, especially white men, are correspondingly low in proportion.

Come to think of it, though, before women's liberation and affirmative action, there were even more pictures of women on calendars than there were pictures of men!!

| | Black Women | Black Men | White Women | White Men | Total |
|--------------------------------------------------------|-------------|-----------|-------------|-----------|-------|
| Pictured | 10 | 4 | 32 | 44 | 90 |
| Percent of total employees | 2.3 | 5.9 | 13.9 | 77.5 | |
| Number of pictures if proportional to plant population | 2 | 5 | 13 | 70 | 90 |

Johnson president-elect of ACA



Carroll K. Johnson

Carroll K. Johnson, a research staff member in the Chemistry Division at Oak Ridge National Laboratory, has been elected vice president of the American Crystallographic Association. Election to this office makes Johnson president-elect of the ACA; he will assume the presidency following a one-year term as vice president.

Solicitations on the job

QUESTION: I have been asked for money to buy baby gifts, wedding gifts, house-warming gifts, grandparents gifts, hospital patients gifts, and high school and college graduation gifts for children. These are in addition to a fee that is collected from each person each month to cover these situations. I am currently budgeting from \$5-\$10 a week for solicitations in my department.

Does Union Carbide have a policy pertaining to soliciting money on Company time? I suggest that if there is a set policy that the policy be made known. If there is no set policy, the Company should give it some thought.

ANSWER: Plant rules incorporated in *You at Union Carbide* include: "Unless authorized by the Plant Superintendent or Laboratory Director you are forbidden to solicit, sell tickets, collect, transact any business, or indulge in any activity not related to your employment on Company time."

Such authorization is fairly routine in connection with obtaining voluntary contributions toward a retirement gift, flowers, etc., within the immediate work group involved. We emphasize, however, that any such contribution should be strictly voluntary. No authorization has been granted to permit the collection of fees.

If you average spending from \$5-\$10 per month, much less per week, we consider such an amount to be extremely excessive.

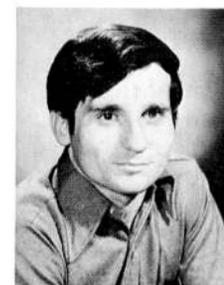
Six promotions announced in Paducah plant operations



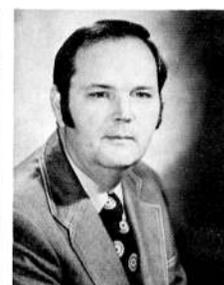
A. J. Ballard



F. M. Blaine



D. L. Buchanan



P. F. Cathcart

Six promotions have been recently announced at the Paducah Gaseous Diffusion Plant.

Ardyce J. Ballard, a secretary in the Maintenance, Laboratory and Industrial Relations Division for 19 years, has been named a maintenance planning specialist in the Fabrication and Maintenance Division. Before joining Union Carbide she worked for the D & W Auto Parts in Mayfield, and for the California State Auto Association in Napa.

A native of Pawnee City, Neb., she is a Certified Professional Secretary and is active in the local National Secretaries Association. Currently she is attending Paducah Community College.

She and her husband, Melvin, live at 509 Hillside Drive, Mayfield. They have two sons.

Forrest M. Blaine has been made a foreman in Chemical Operations. He has been with UCC 23 years.

A native of Grand Rivers, Ky., he served three and one-half years in the U.S. Navy and worked with the Illinois Central Railroad before joining the Paducah forces.

Married to the former Bettie Purdy, he lives at 171 Mohawk Drive, Paducah. They have one son.

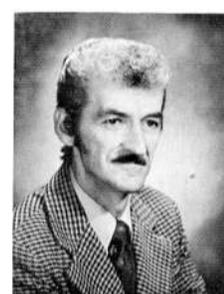
Donald L. Buchanan has been promoted to a senior inspector in the Engineering Division. A native of Mayfield, he served in the U. S. Navy four years before joining UCC in 1973.

He is married to the former Nancy Lynn, and they have a daughter. The Buchanans live at Route 1, West Paducah.

served on the U.S. National Committee for Crystallography since 1972 and on the National Research Council's Committee on Crystallography since 1970.

His research interests include diffraction theory, x-ray and neutron crystallographic methodology, and innovative applications of computers. One of his computer programs, ORTEP, is used to produce many of the stereoscopic structure illustrations which appear in papers on crystallography.

The American Crystallographic Association was founded in 1949 through the merger of the Crystallographic Society of America and the American Society for X-ray and Electron Diffraction. Its objective is to "promote the study of the arrangement of the atoms in matter, its causes, its nature and its consequences; and of the tools and methods used in such studies." The ACA's total membership is more than 1,850.



R. B. Fite



C. Notgrass Jr.

Paul F. Cathcart has also been named a senior inspector in Engineering. He was born in Harrisburg, Ill., and has been with UCC 13 years.

He has an associate degree from Southern Illinois University and also attended the Southern Illinois Vocational Technical Institute.

He and his wife, the former Marita Dawn Hargrave, live at Route 1, West Paducah. They have two daughters.

Ralph B. Fite has been promoted to an estimating engineer in the Engineering Division. Born in Hickman County, Ky., he joined Union Carbide in 1963. He has attended the Paducah Community College.

Before joining UCC, Fite was employed in construction, in the trucking industry, operated a service station and farmed.

Mrs. Fite is the former Norma Jean McNutt, and they have two married children. They live at Route 2, Calvert City.

Claud Notgrass Jr. has been promoted to a senior inspector in Engineering. He worked with Proctor and Gamble and served in the U. S. Navy before joining UCC in Oak Ridge in 1947. He transferred to the Paducah Plant when it began operations.

A native of Dyer County, Tenn., he is a graduate of ITI, Chicago. Mrs. Notgrass is the former Ann McMahan, and they have a daughter and a son, Michael, also employed at the PGDP.

The Notgrasses live in Barlow.

Mattice to hold ANS post

Jack S. Mattice, Environmental Sciences Division at Oak Ridge National Laboratory, will serve as a member of the Program Committee for the American Nuclear Society's Environmental Sciences Division.

The Committee's tasks are to plan and organize special technical sessions for presentation at the Society's two national meetings each year, and to implement review of contributed papers in the environmental sciences area for these meetings.

Nuclear Division men gather engineers' week awards

Six Nuclear Division employees and one former employee received special awards at the Engineers' Week Inaugural Luncheon in Knoxville on February 24.

The "young engineer of the year" award was presented to Marion Martin Brown, head of mechanical design at the Oak Ridge Gaseous Diffusion Plant. The award, presented by Theodore Shapiro, president of the Oak Ridge chapter of the Tennessee Society of Professional Engineers, was given to Brown for "dedicated service to the engineering profession and to the public."

Shapiro presented a "distinguished service" award to F.S. "Pat" Patton, manager of design engineering for the Nuclear Division's Oak Ridge plants. Patton was cited for "untiring efforts on behalf of the engineering profession, and unselfish service to society, his fellow engineers, his community, and the public."

William O. Harms, director of the Liquid Metal Fast Breeder Reactor program at ORNL and general chairman of the WATtec conference, presented awards to the following:

- Robert MacPherson, manager of the experimental engineering section, ORNL Reactor Division, for "significant achievement in research and development."
- Alfred L. Boch, director of capital projects, Engineering at ORNL, for "significant achievements in construction, fabrication and testing."
- William Fort, a consulting engineer for the Gas Centrifuge Engineering project at ORGDP, for "significant achievement in design and analysis."
- James Weir, director of the Metals and Ceramics Division at ORNL, for "significant achievement in management."

• Sylvan Cromer, who retired as director of Engineering for the Nuclear Division, for "significant achievement in community service."
More than 500 engineers and their guests attended the luncheon, which was sponsored by chapters of engineering and technical societies in the Oak Ridge-Knoxville area.



Design and analysis



Young engineer of '76



Distinguished service



Management achievement



Research and development



WANTED

Y-12 PLANT

RIDE, or WILL JOIN CAR POOL from Milligan Heights subdivision, Clinton Highway, to Biology Division or North Portal. Faye Young, plant extension 3-7351, or home phone Clinton 457-3369.

RIDERS from Norwood, Merchants Road, Cherokee Ridge area, straight day, East, North or Central Portals. Jim Baker, plant phone 3-5935, home phone Knoxville 947-3396.

RIDE from Norwood section of Oliver Springs to any portal, Y-12, straight day. Phil Childs, plant phone 3-7241, home phone Oliver Springs 435-0621.



MALL DISPLAY — The West Town Mall, Knoxville, looked like Union Carbide home week. With a giant banner across the top of the mall, the exhibit featured several attractive booths, highlighting capabilities and accomplishments of the Nuclear Division. The display was part of the observance of Engineers' Week.

Technology to be highlighted in Bicentennial lecture series

Plans for a year-long program of bicentennial lectures, keynoting the history of technology in the United States and its present and probable future impacts on society, have been announced by Oak Ridge National Laboratory.

Invited speakers for the Oak Ridge Bicentennial Lectures on Technology and Society will include academic and governmental leaders in public affairs, science, technology, and technology assessment. The series, which begins with four lectures this spring and will continue in the fall, will be held at the American Museum of Atomic Energy.

No admission fee

The six lectures will be open to the public. There will be no charge.

Announcing the program, ORNL Director Herman Postma said: "The unifying theme of this bicentennial series will be the problems and opportunities of a technological society. Our aim in bringing these distinguished lecturers to Oak Ridge is not only to enlarge our own perspective on the role played by technology historically and in today's society, but also to better understand the way society perceives that role which represents the major mission of the Laboratory."

The lectures will include talks on the history of technology, on ethical questions and societal impacts related to technological development, the energy problem, and maintaining political support for basic research and technological development.

Begins April 6

The first speaker in the series, Tuesday, April 6, will be Melvin Kranzberg, Callaway professor of the history of technology at the Georgia Institute of Technology. His topic will be "The Social Ecology of Technology." Professor Kranzberg, the founder of its journal, "Technology and Culture," came to Georgia Tech in 1972 from Case Western Reserve University, where he established the first graduate-level program in the history of technology at an American university.

The second lecturer will be George Wald, professor of chemistry at Harvard University and winner of the 1967 Nobel Prize in Physiology and Medicine for his work on the chemistry of vision. His talk, scheduled Thursday, May 13, will be on the topic, "Life in the Universe — From Cosmology to Politics."

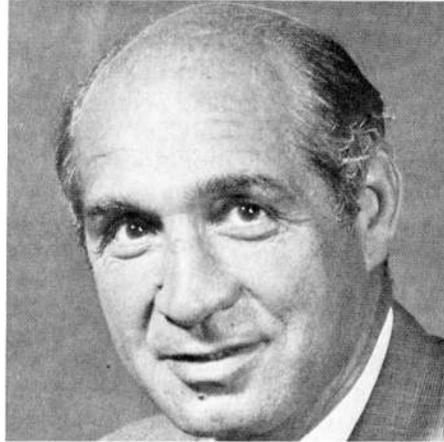
Societal impact

On Tuesday, June 1, Hazel Henderson, co-director of the Princeton Center for Alternative Futures, Inc., New Jersey, will speak on societal impacts of technology. She holds appointments to the National Academy of Engineering's Committee on Public Engineering Policy, the Advisory Council to the Office of Technology Assessment of the U. S. Congress, and the National Science Foundation's Advisory Committee on Research Applications Policy.

Rodger Revelle, the Richard Saltonstall Professor of Population Policy at Harvard University and Director of the Harvard Center for Population Study will present the fourth lecture in the series Monday,



Harvey Brooks



Emilio Q. Daddario



Hazel Henderson



Melvin Kranzberg



George Wald

June 28, on the "Problems of World Population Growth."

Revelle is a former director of the Scripps Institution of Oceanography and served as science advisor to the Secretary of Interior before his present appointment in 1964.

A leader in cooperative International Scientific activities, he was also president in 1974 of the American Association for the Advancement of Science. Revelle played a key role in the establishment of the University of California, San Diego, in the late 1950's and that institution's first college was named in his honor.

Continuing the series this fall, speakers will be: Emilio Q. Daddario, executive director of the Office of Technology Assessment, former Congressman from Connecticut, and president-elect of the American Association for the Advancement of Science; and Harvey Brooks, the Benjamin Pierce professor of technology and public policy at Harvard University, who was a member for many years of the former Atomic Energy Commission's Advisory Committee on Reactor Safeguards. He also has served on the President's Science Advisory Committee, the National Science Board, and as chairman of the Committee on Science and Public Policy of the National Academy of Science.

Political support

Mr. Daddario's lecture in September (on a date to be announced) will deal with problems of maintaining political support for basic research and technological development.

Professor Brooks, whose lecture on energy problems and prospects is scheduled Tuesday, October 5, is currently co-chairman of a National Academy of Sciences-National Academy of Engineering study on the future role of nuclear energy in the context of alternative energy systems.

calendar of events

TECHNICAL March 6

American Society of Nondestructive Testing: "What Did He Say?" John A. Vancil, Choctaw Service & Supply, Tulsa, Okla. (Ladies Night) Alexander Motor Inn, Oak Ridge, social hour 6:30 p.m.; dinner 7; and program 8 p.m.

March 9

Distinguished Lecturer Seminar: "Reconstitution and Mechanisms of

Oxidative Phosphorylation and of Ion Pumps," Efraim Racker, Cornell University. Tower I Conference Room, Building 9207, 12:15 p.m.

March 18

Cellular Molecular Biology Seminar: "Studies on the Mechanism of Substrate Adhesion of Normal and Virus-Formed Cells," Lloyd A. Culp, Case Western Reserve. Tower I Conference Room, Building 9207, 12:15 p.m.



SCOUTING'S HIGHEST AWARD — Two Union Carbide families and a scoutmaster were honored recently in Paducah as two sons of employees were awarded Eagle honors. From left are the Rev. John Wood, pastor of the sponsoring First Baptist Church; E. P. Larson, Plant Engineering Division; Mrs. Larson; Mark Larson, Eagle Scout; Larry Freeman, also an Eagle Scout; Mrs. Freeman; A. T. Freeman, Cascade Operations Division; and Ed Ford, scoutmaster, Plant Engineering Division.

NUCLEAR DIVISION SAFETY SCOREBOARD

| Time worked without a lost-time accident through February 26: | | |
|---------------------------------------------------------------|----------|---------------------|
| Paducah | 40 Days | 4000,000 Man-Hours |
| ORGDP | 162 Days | 3,760,549 Man-Hours |
| Y-12 Plant | 23 Days | 588,000 Man-Hours |
| ORNL | 106 Days | 2,155,842 Man-Hours |

recreationotes



Plan St. Patrick's dance March 12

The Chemical Technology Division, Oak Ridge National Laboratory, will sponsor its annual St. Patrick's Day Dance on Friday, March 12, at St. George's Greek Orthodox Church, 4070 Kingston Pike NW, Knoxville.

A social hour will begin at 8 p.m., followed by dancing from 9 until 1 to the music of Junction East. An intermission program is also on the schedule.

Division members, their friends and guests may obtain tickets by calling Bob Hightower, Building 4505, at 3-6457 or 3-6273.

next issue . . .

The next issue will be dated March 18. The deadline is March 10.

CLIP AND SAVE

OAK RIDGE GOLF PLAY

Five big golf tournaments have been set for the three Oak Ridge plants' golfers for the spring and summer. A newly named course, the Family YMCA Center, was formerly called Quail Creek, in Lenoir City.

The handicap tournaments are set for April 24, with the schedule listed below. Golfers may wish to clip and save the schedule.

Prizes will be awarded in three divisions for each plant, and will be in the form of golf balls. In the new point system, a bogey earns one point, par two points, a birdie three points, and an eagle four points.

ORNL Tournaments

April 24
May 22
June 26
July 31
August 28

Wallace Hills
Whittle Springs
YMCA Center
Dead Horse Lake
Southwest Point

Y-12 Tournaments

April 24
May 22
June 26
July 31
August 28

YMCA Center
Dead Horse Lake
Whittle Springs
Southwest Point
Wallace Hills

ORGDP Tournaments

April 24
May 22
June 26
July 31
August 28

Whittle Springs
Wallace Hills
Southwest Point
YMCA Center
Dead Horse Lake

Green fees are \$4 for most courses, save Whittle Springs and Dead Horse Lake, where the fees are \$4.50. Carts are available at all the courses, ranging from \$8 to \$9 for rentals, but these reservations are made by individuals.

ORGDP BOWLING

The Uptowners take second rung to no one in the ORGDP Women's League, as competition goes into the homestretch. Nell Jago rolled high scratch recently, posting singles of 203 and series of 559. Helen Hobson rolled a 230 handicap game, and Mary Johnson put a 620 series up on the boards.

The Tuesday League still has the All Stars out front, extending their lead over the City Slickers. L. C. Finley rolled a high scratch in mid-February with singles of 225, and series of 575. C. G. Baker rolled a 653 series in handicap count.

The Wednesday League has a three team tie for first place as the Hi-Rollers, Demons and Planners all stand one point in front of the Amps and Mix-Ups. Karl Rapp earned bowler-of-the-night honors with a 642 series; while Bob Harris rolled a 267 single.

CARBIDE CANOE CLUB

The Carbide Canoe Club, in cooperation with the East Tennessee White Water Club, will sponsor a kayak and decked canoe race the weekend of March 20-21. Race chairmen are Mark Hall and Earl Ginn. The competition will begin as a slalom race starts at 12 noon, somewhere below the bridge (approximately one mile) at Bald River Falls. The exact site will be determined by the river flow. Sunday's downriver race begins at 10 a.m. Details may be obtained from Dick Gammage, Oak Ridge telephone 483-4141; or Tom Berg, 483-6079.



AMPLE WARNING — Motorists in the Oak Ridge area now have ample warning of the many herds of deer living in the forests and fields surrounding governmental property. Many serious accidents have been reported as automobiles crash into the animals as they cross Bear Creek, White Wing, Bethel Valley and other roads near the plants. Nighttime hazards are pointedly prevalent.

Y-12 BOWLING

The Friskies still ride herd over the Y-12 Mixed League out in front of the Rollers and Splinters. George Reece's 248 single game stands high . . . and Bill Butturini's 672 series still reigns over the roost.

The Playboys have a four point lead in the Classic set as the 16 team rolls into its final stages. Jim Lawhorn's 256 single game is still unbeatable, and Bill Ladd's series of 637, all in scratch counting, is still high.



ORNL

RIDE WANTED for UT intern beginning March 31 through June 4 from Knoxville UT area to East Portal, straight day. Contact Karen Cromer, home phone Knoxville 974-5613, or call ORNL extension 3-6265 and leave message.

ORGDP

JOIN CAR POOL from Emory Valley section, Oak Ridge, to Portal 4 or 5, straight day. Paul Hight, plant phone 3-3614, home phone Oak Ridge 483-1539.

Y-12 PLANT

JOIN or FORM CAR POOL from 504 Woodland Drive, Clinton, to North or Central Portal, straight day. C. W. Anderson, plant phone 3-7392, home phone Clinton 457-2687.

B SHIFT PARTY

B Shiftmen from Y-12 are planning a gala party night at the Oak Ridge Civic Center, March 15. Games get underway at 7:30 p.m. in Rooms A and B.

There will be 20 games at \$1 per card. All Y-12ers and their families are invited to attend.

PRESIDENTIAL CITATIONS

A Presidential Sports Award was presented Donald R. Ward, ORNL, recently for badminton.

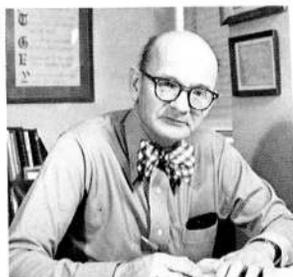
John M. Gerwels, ORGDP, recently earned his award for tennis.

ORNL BOWLING

Alley Rads hold a distinct advantage in ORNL's C League, as a roll-off was planned for this week. They are a good 11 and one-half points away from the Damagers. The Knuckleheads' L. J. Gray put a 666 series up on the boards recently. C. F. Zamzow rolled the high scratch game of the week, with a 222.

The Mousechasers still are up there in the ORNL Ladies League, as the Hp-ettes move into second place. Brena Stevens again rolled high scratch scores of 226 for a single, and 549 for a series. Elizabeth Phipps put a 642 handicap series up which everyone is still aiming at.

The Carbide Family Mixed League puts the Odd Balls out front, now, two games ahead of the Possibilities. Wayne Cooper and Tillie Plaza were stars in February rolling.



medicine chest

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.)

QUESTION: "I am taking medicine for my high blood pressure. I have been told I need to eat orange juice and bananas. How much do I need to eat and what happens if I don't?"

ANSWER: Many patients with high blood pressure take diuretic medicine which causes them to excrete extra salt in their urine. This loss of sodium chloride has a favorable effect on the blood pressure much like a low salt diet. Unfortunately, other chemical ions, such as potassium, magnesium and bicarbonate, are also excreted at an increased rate.

The excess loss of sodium and potassium can cause unpleasant and sometimes dangerous side effects. Fortunately, low sodium is rarely a problem. Low potassium, however, can sensitize the heart to the effects of other drugs and can cause rhythm disturbances.

The symptoms to look for are dryness of the mouth, weakness, thirst and general lethargy. Adequate potassium can be maintained by eating several potassium-rich foods. It is usually adequate to eat about 1.5 to 2 milligrams potassium extra in the diet each day. Two medium-sized bananas plus an eight-ounce glass of orange juice will provide enough extra potassium.

If you only drink orange juice, you should try to drink about three eight-ounce glasses each day. If you concentrate on bananas, try to eat three medium-sized ones each day. A whole average-sized cantaloupe, a cup of dates, a cup and one-third of raisins, or a handful of dried apricots will each be sufficient. A daily liquid potassium supplement can be taken if a person doesn't want to eat the potassium-rich foods. Enteric-coated potassium tablets are hazardous and should not be used.

Effects of water softeners

QUESTION: "I have high blood pressure and am taking medicine for it. I have a water softener at home. Does it increase the amount of sodium in my drinking water?"

ANSWER: Yes. After passage of water through a home water softener, the sodium concentration increases about four times. In *Trace Substances in Environmental Health* (D. D. Hemphill, Ed., Volume 3, published by the University of Missouri, Columbia, 1969), the average sodium content of unsoftened water is reported to be 23 milligrams per liter and after it has been softened to be 93 milligrams per liter.

Popping joints harmful?

QUESTION: "My joints pop regularly when I get up in the morning, even if I try not to stretch. Is joint-popping harmful? Is it caused by cavitation at the joint surface? What can be done to stop the popping?"

ANSWER: The popping you describe is probably caused by the rubbing or snapping of tendons or fibrous bands about your joints as they glide upon one another. Sometimes when cartilaginous joint surfaces rub against each other, especially in the knee, there can be a grinding or grating noise.

Most popping is probably of no significance and seems to run in families. If the popping is confined to one joint, it can be related to a degenerative problem related to wear and tear or sometimes to an arthritic process. The back side of the knee cap sometimes gets worn and can cause grinding and pain after too much exercise. In your case, you seem to have difficulty only in the morning, so it probably is not of major concern.

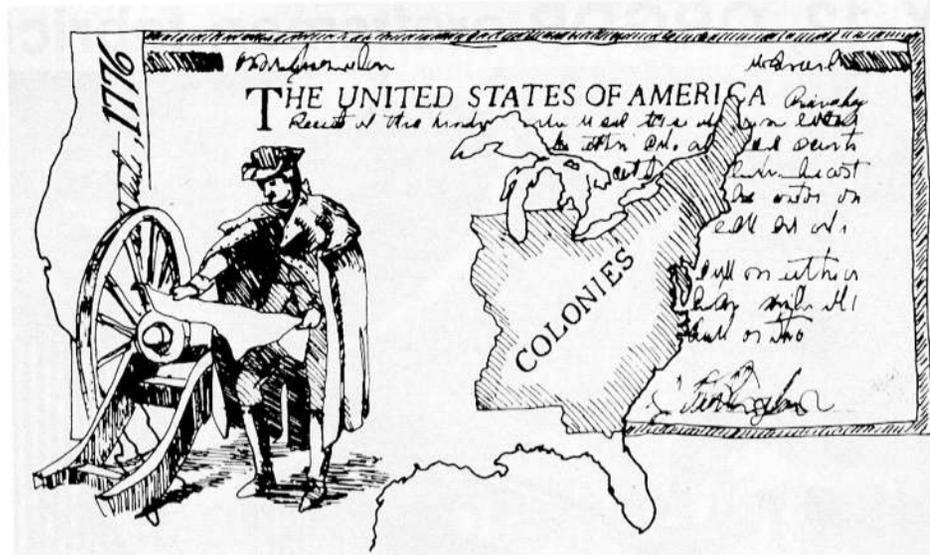
If you have had swelling, pain and morning stiffness in your joints, of course one has to consider the possibility of an early arthritis. I don't believe anything can be done about the problem, although you might try putting the joints that normally pop through their full range of motion before you get out of bed. This warmup motion will probably reduce the popping, which occurs when you bear weight on your joints.

Those contagious colds

QUESTION: "When an adult comes down with a cold, at what stage is the victim most contagious? I read once that the most contagious stage for the common cold is two or three days prior to the appearance of symptoms. Is this true?"

ANSWER: Virus particles may be shed from an individual and spread into the environment by coughing, sneezing, blowing the nose, singing, rapid breathing and even by talking. During these activities, tiny droplets of moisture are expelled with the air from the respiratory tract. The droplets evaporate almost instantly, leaving residues called droplet nuclei. These nuclei, which contain virus particles, are so small they do not settle and are carried about the room on air currents.

It does not seem to be practical to try to isolate people with colds, since they usually shed virus particles from



They financed freedom for you . . .

The Continental Congress of 1776 had no power to tax. America was going broke. Low on bullets and beans, the revolution was almost out of steam. But Americans took stock in their new country to the tune of \$27

million. They financed freedom. Gaining freedom was expensive. Keeping it costs even more. So sign up with your Payroll Savings Plan. You save more than money. Bonds are also a good investment.

anniversaries

ORGDP

30 YEARS

Fred Moore, Engineering Division; Nathan N. Landay, Chemical and General Field Maintenance; Hubert L. Hall, Oak Ridge Area Electricity Distribution Department; Arthur C. Brooks, Guard Department; Harris Cresswell, Isotope Analysis Department; Marshall B. McCloud, Power and Utilities Maintenance; and Jack A. Pierce, Machine Shop Department.

25 YEARS

Leslie R. Powers Jr., Clarence J. Parrish Jr., Dewey J. Sharpe, Dwight E. Hatch, Norman W. Snow and Albion C. Spence.

20 YEARS

James W. Anderson, C. Gordon Jones and Edsel R. Hensley.

PADUCAH

30 YEARS

Robroy Millican, Plant Superintendents Division.

Y-12 PLANT

30 YEARS

Orion C. Lee, Area Five Maintenance Department; and John E. Harding, Maintenance Division Administration.

25 YEARS

Chester E. Spradlin, Mack S. Baker, Charlyne S. Smith, Doyal E. Watson, Ernest Duncan, Herman R. Butler Jr., Estel J. Delaney, Wilburn Burum, Grady L. Nichols, Thomas W. Johnson, Hence Mitchell, Alvin C. Wood and William H. Moehl.

20 YEARS

John H. Ramsey and Vivien A. "Lou" Anfinson

GENERAL STAFF

30 YEARS

Charles A. Fritts, Purchasing Division; and James E. Parham, ORNL Computing Applications.

25 YEARS

Jackie S. Gillen.

20 YEARS

John M. Shumpert.

ORNL

30 YEARS

Geraldine Olerich, Lawrence T. Corbin and Arthur J. Weinberger, Analytical Chemistry Division; Wiley Jennings Jr., Metals and Ceramics Division; James A. Williams, Plant and Equipment Division; Windell Patterson, Operations Division; James R. McGuffey, Inspection Engineering; Byron C. Thompson, Instrumentation and Controls Division; Edward L. Nicholson Jr., Chemical Technology, and Raimon E. Eby, Analytical Chemistry Division.

25 YEARS

Ross S. Jones Jr., George M. Begun, Richard B. Lindauer and Paul R. Kasten.

20 YEARS

Guerino D. Novelli, Noah R. Johnson Jr., Bernard L. Corbett, Robert M. Hill Jr., Edward E. Gross and William E. Terry.

Evening school lists additional courses

Night life, it's called ... for profit that is. The U.T. Evening School has announced its curriculum for the Spring Quarter, with some additions of classes. Registration is now in progress for the classes, and a complete catalog may be obtained from each plant's educational office.

Architectural Graphics will be taught in the Y-12 Plant, as well as Vocational Administration and Management. Industrial Education 5530, Seminar in Industrial Technical Education, and 3310, Shop Organization and Class Management have been added to the schedule. Homer Moss, Y-12 Safety Engineer, will also teach a course in Shop Safety.

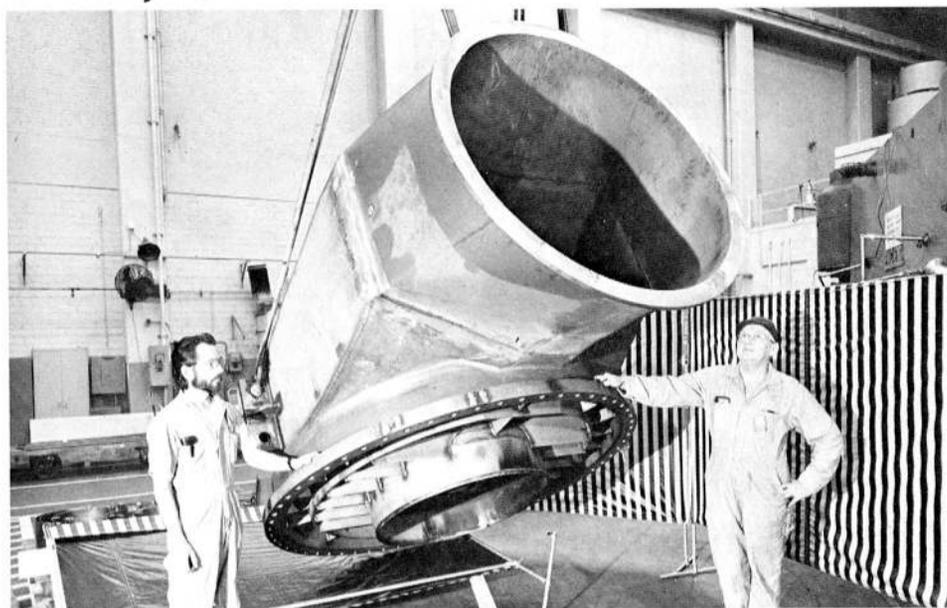
Additional information may be obtained from the Oak Ridge High School office, telephone 482-2851.

two or three days before the onset of symptoms to about a week after recovery. A person is probably most contagious when he is coughing and sneezing, primarily because that is when he is expelling the most droplets.

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Y-12, ORGDP craftsmen fabricate compressor suction nozzles.



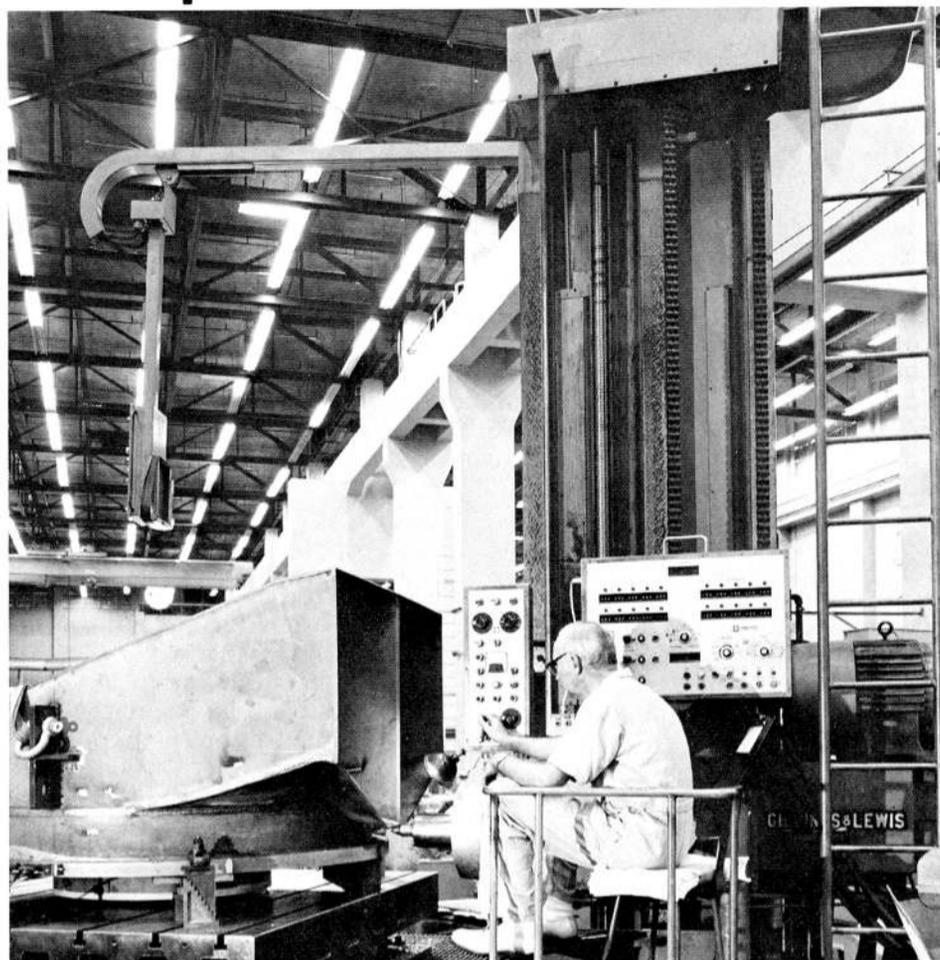
COMPRESSOR SUCTION NOZZLE — Y-12 craftsmen Jerry Blevins, left, a sheet metal worker, and C. A. "Fuzzy" Franklin, welder, were among the employees assisting in making this compressor suction nozzle for the Oak Ridge Gaseous Diffusion Plant.

Two replacement compressor suction nozzles for use in the Oak Ridge Gaseous Diffusion Plant have been fabricated by Y-12 Plant and ORGDP craftsmen.

The nozzles, prepared for installation in the gaseous diffusion process, were completed solely in the Nuclear Division's fabrication facilities. The function of the compressor nozzles is to assist in circulating the uranium hexafluoride gas through the gaseous diffusion system.

The nozzles are made of mild steel and are approximately seven feet in diameter. Each nozzle represents several thousand manhours of craft work, including machining and plating at ORGDP and machining, welding and sheet metal work at Y-12.

Y-12 Plant project engineers for the job were Bruce Dyer and Gerald Lankford. Fred Shanks was project engineer for the work done at ORGDP.



TURNING AND BORING MILL — One of the fabrication steps in making the compressor nozzle for ORGDP is a machining operation on a large turning and boring mill. The machinist is Edgar "Ed" W. Phelps Jr., Y-12's Alpha-1 Shop.

Savings Plan-Personal Investment Account

Recent unit values:

| | Fixed Income Fund | UCC Stock | Equity Investment Fund |
|-------------|-------------------|-----------|------------------------|
| August 73 | 10.0000 | 34.7688 | 10.0000 |
| December 73 | 10.2444 | 31.8170 | 9.3602 |
| December 74 | 11.0438 | 40.3009 | 6.4354 |
| October 75 | 11.8238 | 58.2720 | 7.8003 |
| November 75 | 11.9089 | 58.2039 | 7.9946 |
| December 75 | 11.9880 | 58.7886 | 7.8231 |
| January 76 | 12.0752 | 67.6530 | 8.5697 |

Note: Fixed Income Fund unit values reflect interest additions to achieve the guaranteed effective annual interest rate of 8.55% for 1975 and 8.85% for 1976. Union Carbide stock values are the average cost of stock purchases during the month plus brokerage charges. Equity Investment Fund unit values represent the month-end market value of securities held by the Fund. Dividing the total value by the number of units in the fund establishes the month's unit value — and the price at which new units are added that month.

Savings Plan-PIA statements mailed

Statements showing the status of the Personal Investment Account portion of the UCC Savings Plan were mailed to all Nuclear Division participants this week.

Each statement was calculated for the year 1975 with an effective day of December 31, 1975. It shows the funds put into the account by the employee, by the Company, from dividends, or from gain or loss from sales of investment units, UCC stock or bonds. It shows the number of shares of UCC stock, U.S. Savings Bonds, and units in the Fixed Income Fund or Equity Investment Fund in each participant's account. Other financial data also is shown for each account.

Included with the statement is a reminder that each employee should review his or her beneficiary designation to be absolutely certain that it correctly shows the employee's

wishes. Contact the Benefit Plans Office if changes are desired.

A brochure containing a brief description of the investment opportunities in the Personal Investment Account and the monthly unit values of UCC stock, the Fixed Income Fund and the Equity Investment Fund during 1975 is also enclosed. In addition this brochure contains a listing of the securities and other assets held by the Equity Investment Fund on December 31, 1975.

Participants in the Personal Investment Account who have not received their report should contact their Benefit Plans Office. This office also will be glad to explain the figures in the report upon request. If errors are found or suspected, they should be reported to the Benefit Plans Office within 60 days after the statement has been received so that they can be investigated.

Zerby heads office

(Continued from page 1)

1950, his master's degree in physics from The University of Tennessee in 1956, and his Ph.D. in physics from UT four years later.

He has served on many special committees, including the U.S. Atomic Energy Commission's Cross Section Advisory Group, and the ad hoc Committee of the U.S. Air Force's Scientific Advisory Board on Space Radiation Effects.

He is a member of the American Management Association, American

patent granted

To Raymond E. Blanco, George I. Cathers and Herschel W. Godbee, all of ORNL, for "Iodine Retention During Evaporative Volume Reduction."

Physical Society, American Nuclear Society, the Research Society of America and Sigma Xi.

Zerby is married to the former Patricia Zerkel. They have three children, Cathy, Allyn and Robert. They live at 1079 West Outer Drive, Oak Ridge.



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