

Nuclear Division News



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

Vol. 7 No. 14/July 8, 1976

OWI names Lomenick head of geological projects



Thomas F. Lomenick

Thomas F. Lomenick has been appointed manager of geology projects for the Office of Waste Isolation, according to Clayton D. Zerby, OWI director.

In this capacity, he will be responsible for all geological studies and investigations required to identify and certify specific locations for nuclear waste terminal storage facilities.

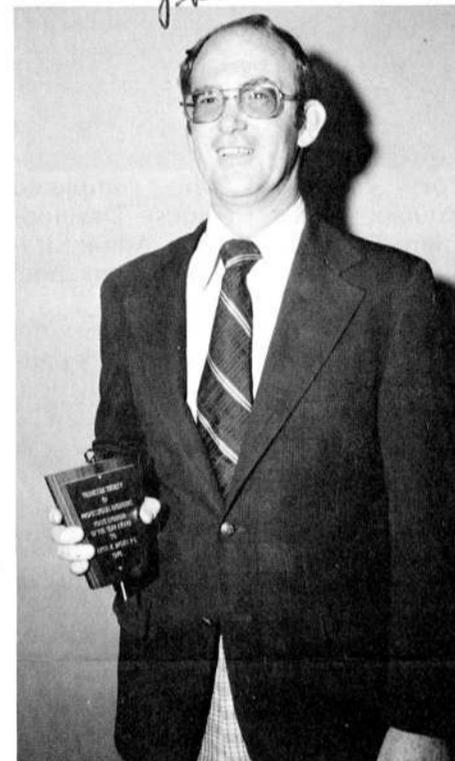
A native of Chattanooga, Lomenick joined Union Carbide in 1959, working as a geologist in Chemical Technology and Health Physics Divisions. He has a Ph.D. from the University of Tennessee.

The Lomenicks live on Smith Road, Concord. His wife is the former Ann Spaulding and they have two sons, James and Jefferson; and two daughters, Suzanne and Patricia.

Engineering's Patton, Brown takes high TSPE honors



Finis S. Patton Jr.
'Outstanding Service'



M. Martin Brown
'Young Engineer of Year'

Engineers in the Nuclear Division took two of the top three awards at the recent annual meeting of the Tennessee Society of Professional Engineers. Finis S. Patton Jr. received TSPE's "Outstanding Service Award," and M. Martin Brown was named "Young Engineer of the Year."

The awards were presented by David Roberson, director of the National Society of Professional Engineers, during the Society's annual banquet in Memphis.

Patton, who is manager of Design Engineering in the Nuclear Division, directs design engineering activities for the Y-12 Plant, the Oak Ridge National Laboratory and the Oak Ridge Gaseous Diffusion Plant. These activities include design of a major improvement of existing uranium enrichment plants, gas centrifuge development facilities, nuclear weapons production facilities and support of various research programs at ORNL.

Patton, a native of Memphis, is a chemical engineering graduate of the University of Mississippi and Louisiana State University. He joined Union Carbide in 1950 at the Y-12 Plant as a process design engineer and has held a number of engineering positions prior to his current assignment. He is a registered professional engineer and a member of various technical societies.

His contributions to the TSPE include service as president of the

Oak Ridge Chapter, and as state director. He has long stressed the importance of professional growth through continuous education and engineering registration, and was instrumental in setting up strong in-house engineering science review courses.

Patton has two daughters, Becky and Cindy; and a son, Lance. He lives in Knoxville.

Brown, the Nuclear Division's "Young Engineer of the Year," attended Southern Methodist University and has a B.S. in mechanical engineering from UT. He joined Union Carbide in Y-12, after working for General Dynamics and Chance Vought Corporation. He worked part-time while in school with Campbell Wallace Engineers in Knoxville.

While in Y-12, he was a design engineer and later became supervisor of the Mechanical Equipment Development Department. He transferred to ORGDP last year and was named department head of ORGDP's Mechanical Engineering. This department is responsible for the mechanical engineering design services required by the gas centrifuge program.

Brown has been very active in the local chapter of TSPE. A native of Murfreesboro, he lives at 9324 Sarasota Drive, Knoxville, with his wife, the former Shirley Hall. They have two children, Susan and Marty.

Construction begins on Heavy Ion Lab

Construction has begun on the \$17.5 million Heavy Ion Laboratory at Oak Ridge National Laboratory.

Upon completion in 1979, the new facility will serve as a national resource for research programs in nuclear structure, nuclear reactions, nuclear chemistry, atomic physics, biophysics, health physics, solid state physics and material science.

The new laboratory is being constructed by Tipton & Reynolds Construction Company of Alcoa, under a \$2,845,000 contract awarded the firm on a bid basis by the Energy Research and Development Administration.

The principle feature of the facility will be a 25-million-volt tandem electrostatic accelerator, which will

be the largest machine of its type in the world. The accelerator, which has been purchased from National Electrostatics Corporation, will be interconnected with ORNL's present heavy-ion accelerator, the Oak Ridge Isochronous Cyclotron (ORIC), providing scientists with a significantly advanced machine for accelerating heavy charged particles to higher and higher energies.

The accelerator will be housed in a 160-foot high circular tower, 45 feet in diameter. A three-story addition to the present ORIC Building, surrounding the tower on three sides, will house experimental areas and computer and support facilities as well as the accelerator's ion sources and injection system.

inside . . .



Did you know that five physicians signed the Declaration of Independence, along with farmers, ministers, and other craftsmen? What were these men like, these early doctors who so nobly "held these truths to be self-evident?" Dr. Lincoln writes a fascinating account of these early "revolutionaries" on page 7.

Other features include:

- Van Hook appointment . . . page 2
- Y-12er Thompson takes AWS honors page 3
- Modular buildings page 4
- Retirements page 5



IN-HOUSE INSTRUCTORS — Some of the instructors in the In-House Development Opportunities program and administrative personnel paused for a photo at the certificate presentation ceremonies last month. From left are Paul Gillespie, Personnel Development and Systems Department, who coordinated the program; Paul Blakely; Frank R. Bruce, ORNL associate director; Barbara White; Nelson Wilkins; Jim Selle; Vernell Moore; Ada Misk; Jim Moore; Jim Huffman; Meredith Hill; Clyde Fulmer; John Caton, and Bert G. Catron, head of Personnel Development and Systems. All instructors, including those not available for the photo, and the courses they taught are listed in the accompanying article.

In-house certificates awarded

Certificates were awarded last month to Oak Ridge National Laboratory employees who completed courses in the In-House Development Opportunities for Administrative and Technical Support Personnel program for 1975-76.

Administered by the Personnel Development and Systems Department, Employee Relations Division, the program includes more than 20 courses in the areas of clerical, technical and communications skills. Paula Gillespie coordinates the courses, which are open to all weekly salaried employees.

Course work gets under way each fall, following the mailing of descriptive brochures to employees.

Following is a list of employees who completed the past year's In-House Development courses, and their instructors:

BASIC COMPUTER CONCEPTS

Bobbie-Neal Collier, Jennetta P. Hutson, Frank Huber Jr., Paul J. Jones, Clayton O. McNew Jr., Janice Moore, Virginia G. Myers, William J. Selvidge, Phyllis E. Stakes, Norma S. Yost, Mary Guy, Lorena F. Truett and Ellen Williams.

Instructor: C. W. Nestor.

BASIC PL/1

S. Russell Manning, Clayton O. McNew, C. A. Clark and Mary Ruth McGinnis.

Instructor: C. W. Nestor.

BLUEPRINT READING

Manuel G. Gillispie, Lloyd Hall, William Hawkins, John Holbrook, Edward Johns, S. Russell Manning, A. R. Suneson and Shirley Waters.

Instructor: James C. Moore.

CHEMISTRY

Charles W. Boggs, Carol Brumley and Anita Gill.

Instructor: John Caton.

DICTIONARY & TRANSCRIPTION

Jean Fraley and Thelma Patton.

Instructor: Anita Barker.

EFFECTIVE LETTER WRITING

Judy Adams, Irene Brogden and Helen Braunstein.

Instructor: Anita B. Gill.

ENGINEERING MATERIALS

William E. Evans, Claudette McKamey, D. R. Miller, Jerry D. Lyons, Mildred W. Kropff, William E. Hawkins and Lloyd Hall.

Instructor: Jim Selle.

GRAMMAR

Margie Adair, Carolyn Barnes, Bonnie Brummitt, Rosonna Forkland, Jean Fraley and M. Sue Tilley.

Instructor: Bonnie Winsbro.

HUMAN RELATIONS

Karolyn Barnes, Georgia Bowers, Gladys Carpenter, Bobbie-Neal Collier, William Evans, Bernice Fitzgerald, Chris Flanary, Peggy Geldmeier, Bobbie Kirtland, Geneva Lee, R. A. Maples, Jackie Melhorn, Jane Morrison, Florence Olden, Cathy Wilkes, Beverly Barber, Fawnee Dinsmore, Betty Edwards, Wanda Ellis, Sharon Fuller, Vivian Jacobs, Howard Poly, Polly Purnell, Ann Ragan, P. E. Stakes and Jean White.

Instructor: Paula Gillespie.

INTRODUCTION TO IBM SYSTEM 360

Clayton O. McNew and Jacqueline T. Miller.

Instructor: C. W. Nestor.

MANAGEMENT READING SKILLS

Nancy Cochran, George Dailey, Nancy Dailey, Randy Dew, Tim Ensminger, Karen Galloway, Peggy Geldmeier, Debra Hensley, Andy Higginbotham, Gail Lemons, John Noonan, Robert Ross, John Waggoner and Don Wilkes.

Instructor: Paula Gillespie.

MATHEMATICS

Sam Beasley and Pam Howell.

Instructor: Dennis Strickler.

PHYSICS

J. L. Ping, Anne E. St. Clair, F. J. Weaver and Martha B. Inman.

Instructor: Clyde Fulmer

SECRETARIAL WORKSHOPS AND SEMINARS

In-basket Exercise: Betty Edwards, Debra Hensley, Annette Jones, Peggy Johnson, Renee Joseph, Nancy Pope, Jamie Ryon and Gwen Wicker.

Instructor: Vernell Moore.

Review of Nuclear Division Office Guide: Wilma Barnard, Karen Barry, Mary Basler, Sue Begler, Irene Brogden, Betty Burns, Clara Cawse, Evelyn Cobham, Paula Cottrell, Betty Edwards, Sharon Fuller, Edith Jones, Doris Maddux, Alice McWilliams, Evelyn Nelson, Lindy Norris, Thelma Patton, Nancy Pope, Eddreana Powell, June Redmond, Brenda Shelton, Brenda Taylor, Zee Trotter, Janice Varner and Gwen Wicker.

Instructor: Barbara White.

Executive/Secretary Relationship: Irene Brogden, Jo Brown, Renee Joseph, Lindy Norris, June Redmond, Rebecca Rickman and Gwen Wicker.

Instructor: George Joseph.

Records Management: Irene Brogden, Betty Edwards, Rebecca Hamley, Nell Jones, Nancy Pope, Polly Purnell, Betty Jo Waddell and Gwen Wicker.

Instructor: J. M. Huffman.

SHORTHAND

Shorthand I: Wilma Barnard.

Shorthand II: Audrey Brooks, Gilda Golightly, Carolyn Seaborn and Donna Watson.

Instructor: Ada Misk.

SI METRICS

W. M. Brown, J. W. Forseman, Roscoe Jones, M. H. Kunselman, U. P. Lickliter, M. E.

Named technical advisor

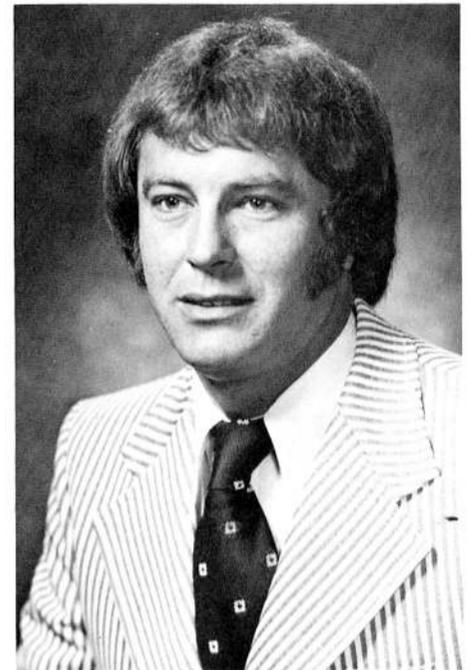
Robert I. Van Hook has begun a special one-year appointment as technical assistant to Chester R. Richmond, associate director for biomedical and environmental sciences at Oak Ridge National Laboratory. He succeeds James E. Turner, who has returned to the Laboratory's Health Physics Division as associate director.

Van Hook plans to return to the Environmental Sciences Division as a program manager after completion of the new assignment.

Van Hook is a native of Florence, S.C., where he attended the University of South Carolina at Florence. He received his B.S. and Ph.D. degrees in entomology from Clemson University.

In 1970 he joined ORNL's Environmental Sciences Division as a research staff member. His research interests have included the effects of ionizing radiations on animal populations and the transport of radionuclides and trace contaminants in the environment. For the past three years he has been involved in the Laboratory's program on ecology and analysis of trace contaminants supported by the National Science Foundation, and was appointed manager of the Environmental Sciences Division's trace contaminants behavior project earlier this year.

Van Hook is a member of the American Association for the

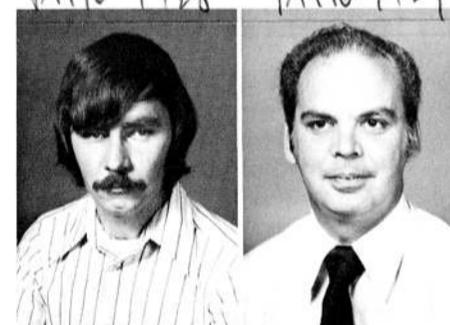


Robert I. Van Hook

Advancement of Science, the Ecological Society of America, and the Society for Geochemistry and Health. He has served as chairman of several ERDA and NSF-sponsored symposia on the Transport of Effects of Trace Contaminants in the Environment.

He and his wife, Nancy, reside at 43 Montclair Road in Oak Ridge. They have a son, Mark, and a daughter, Sydney.

New supervisors at ORGDP



J. H. Crabtree R. D. Edwards Sr.

Johnny H. Crabtree and Russell D. Edwards Sr. have been named supervisors in the Oak Ridge Gaseous Diffusion Plant's Fabrication and Maintenance.

McCormack, J. L. Ping, Mary Queener, C. C. Richardson, L. M. Vinyard, H. M. Poly, T. G. Simpson, Peggy McNutt, Becky Eddlemon, J. D. Lyons, Anne St. Clair and F. J. Weaver.

Instructor: N. E. Wilkins.

TECHNIQUES OF ORAL PRESENTATION

Juanita Ball, Norbert Chen, Elaine Huber, Robert Maples, John Noonan, Jane Patterson, Luther Pugh, Carmen Trammell and John Wendelken.

Instructors: J. P. Blakely and J. T. Huffstetler.

TECHNICAL REPORT PREPARATION

Judy Adams, Bobbie Sue Begley, Julia Bishop, Doris Brooks, Wanda Butcher, Carol Carter, Merle Clark, Jamie Copeland, Linda Croff, Karen Galloway, Patricia Golden, Gilda Golightly, Lynn Hinton, Sandra Lyttle, Vernell Moore, Terry Patterson, Cheryl Phillips, Eddreana Powell, Angelyn Puckett, Brenda Roberts, Janice Thomas, Sandra Vaughn, Darcus Ware, Janice Willis and Fauna Stooksbury.

Instructor: Meredith Hill.

TELEPHONE TECHNIQUES

Jean Fraley, Florine Gaines and Kathryn Witherspoon.

Instructor: Paula Gillespie.

division death

Roy M. Martin, Y-12's Buildings, Grounds and Shop Maintenance, died June 22 in the Oak Ridge Hospital.



Mr. Martin

Mr. Martin joined Union Carbide in 1953, and lived at Route 3, Laurel Road, Clinton.

He is survived by his wife, Nettie C. Martin; daughters, Jackie Eichelbarger and Linda Lowe; sons, Roy,

Teddy and Patrick Martin; and two sisters, Eula Stittums and Ruth Owens.

Funeral services were held at the Holley-Gamble Funeral Home with the Rev. E. G. Brown officiating. Masonic rites were conducted at the graveside with burial in the Anderson Memorial Garden.

question box

Illinois income tax

QUESTION: Recently the State of Illinois enacted a state income tax. There are many Illinois residents at the Paducah Plant. Union Carbide does not withhold such state tax, although it does for residents of Kentucky. This is a real inconvenience to Illinois residents, working a hardship which requires partial payment or payment all in a lump sum. Can anything be done by Union Carbide to assist in this problem?

ANSWER: Union Carbide is required by law to withhold Kentucky income tax. There is no such requirement in connection with Illinois taxes and it is quite possible that some Illinois residents would not want the tax withheld.

To meet partial or lump sum payments required, residents of Illinois may make arrangements with their bank for regular transfers from checking accounts to their savings accounts. Also, by payroll deduction they may assign the required amounts to their credit union accounts. Such arrangements offer the advantage of additional income paid on these accounts during the interim before the tax is due.

Annual performance reviews

QUESTION: When I first came to Carbide I was told that every employee received an annual performance evaluation, which would be in writing and which would be discussed with and signed by the employee before being included in his personnel file. I have yet to have any formal review nor have I signed any piece of paper in the five years since I was hired. Other people tell me that they have had such reviews. Why is this not done consistently, and what effect might it have on one's chances of raises and promotions?

ANSWER: Performance appraisal systems are used throughout the Nuclear Division. It is the policy of the Nuclear Division that each salaried employee in the Division have his or her job performance appraised and future job potential and development reviewed at least annually; the results should be discussed with the employee after completion.

There is no Divisional requirement for signing any appraisal form as part of this procedure; however, many groups offer employees the opportunity to sign the appraisal form. Certainly, favorable performance appraisals should improve one's chances for raises and promotions, depending upon the opportunities available.

You should discuss this matter further with your supervisor if you have questions concerning procedures within your particular department or division.

Car pool survey

QUESTION: Why does Carbide waste money and time on the so-called car pool survey when the last list the computer sent me was useless? Not one of the seven listed on my computer list worked the same shift as I; two were not even in the same plant.

ANSWER: We are aware that the first carpooling survey had shortcomings. Recognizing this, the Nuclear Division was prompted to provide employees with a more workable system.

The current Ride-Share Program is being coordinated through the Knoxville Commuter Pool, which is operated by the University of Tennessee. Its purpose is to help employees get to and from work more economically and comfortably and at the same time to conserve energy.

Several features of the current Ride-Share Program make it more attractive than before. Employees can designate the name of plant, portal number, shift, and other pertinent information needed in helping locate a matchable commuting pattern.

Cafeteria portions

QUESTION: Has the Y-12 cafeteria cut down on portions of vegetables, or is it my imagination?

ANSWER: It's your imagination. Portions of vegetables have not been decreased or increased since February 1975, at which time portions were standardized at all of the cafeterias.



1758-74
Trubey new ANS Fellow

David K. Trubey, Neutron Physics Division at Oak Ridge National Laboratory, was among 19 nuclear scientists and engineers named Fellows of the American Nuclear Society (ANS) at the Society's annual meeting in Toronto June 16.

A total of 370 persons have been named Fellows of the 12,000-member Society since it was founded in 1954.

Trubey's citation, read by ANS President Melvin J. Feldman (also an ORNL staff member) stated that he "has made significant contributions to radiation shielding technology as a researcher, teacher, and administrator. He pioneered many of the 'benchmark' calculations and has organized topical and international meetings devoted to radiation shielding technology."

Trubey, a research staff member at ORNL's Radiation Shielding Information Center (RSIC), came to the Laboratory in 1953 as a member of the Physics Division's shielding group. With S. Keith Penny, Computer Sciences, and Betty F. Maskewitz, he founded RSIC in 1962, and served as its manager from 1966 until 1970.

He is chairman of the ANS Shielding Standards Committee and a member of the Working Group on Shielding Nomenclature, and was 1975 chairman of the ANS Shielding and Dosimetry Division. He is currently organizing the Fifth International Conference on Reactor Shielding, to be held in 1977.

Trubey and his wife, Jean, a library science major at the University of Tennessee, live on Betty Lane in Karns. They have two sons.

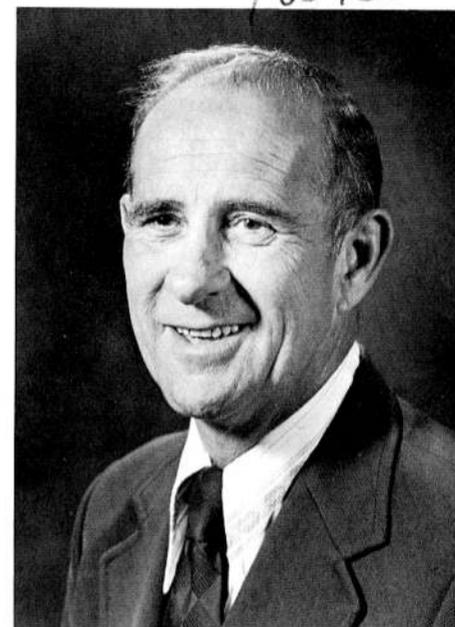
Jim Thompson receives AWS meritorious award

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James C. Thompson Jr., Y-12's Product Certification Division, has been honored recently by the American Welding Society. He was given the AWS Meritorious Certificate in recognition of his counsel, loyalty and devotion to the affairs of the Society, his assistance in promoting cordial relations with industry and other organizations, and for his time and effort on behalf of Union Carbide and the Society.

Thompson has spent 28 years in the welding and inspection techniques of the nuclear industry, with more than 34 years in the general field of welding.

He began with the Tennessee Valley Authority, and received three years of education in welding engineering technology from the International Correspondence School, metallurgical engineering at the University of Tennessee and is a registered professional engineer in welding.



James C. Thompson Jr.

Thompson assisted in organizing the Northeast Tennessee Section of AWS, served on the executive committee, and was chairman during 1956-57, when he initiated the section's first three-part educational series. Serving as a member of the Society's Welding Handbook Committee, he contributed to the fifth and sixth editions of "Wrought Iron and Carbon Steels." In addition, he has authored and co-authored many technical papers on welding. He received the District Meritorious Certificate in 1960.

Other professional activities include membership in the American Society for Nondestructive Testing, American Society for Mechanical Engineers, National Society for Professional Engineers and the Tennessee Society for Professional Engineers. He has been active for the past three years in WATtec, an Interdisciplinary Energy Conference and Exhibition sponsored by approximately 19 professional and technical societies.

Thompson and his wife, Margaret, live at 5331 Lance Drive, Knoxville. They have two sons.

In addition to receiving AWS's highest honor at the 57th annual meeting in St. Louis, Thompson was also elected a national director-at-large in the Society.

Summer Seminar series begins

The 1976 ORNL Summer Seminar Series, a program of lectures for visitors and staff, got under way earlier this week with Murray W. Rosenthal, ORNL Associate Director for Advanced Energy Systems, discussing "U.S. Energy Uses and Sources for the Future."

The series will continue for the next five Tuesdays. Each lecture will be held at 3:30 p.m. in ORNL's East Auditorium.

Upcoming speakers and their topics will include: Jere P. Nichols, director, Coal Technology Program, "Clean Energy from Dirty Coal," July 13; John F. Clarke, director, Thermonuclear Division, "Improving Prospects for Fusion Energy by Magnetic Confinement," July 20; Truman D. Anderson, Reactor Division, "Prospects for Solar Energy," July 27; Eric A. Hirst, Energy Division, "Energy Conservation," August 3; and Gordon G. Fee, director, Reactor Division, "Reactor Safety," August 10.

Questions about the Summer Seminar Series should be directed to ORNL's Office of Professional and University Relations, extension 3-6251.

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
March 76	12.2480	73.8691	8.6006
April 76	12.3354	70.6876	8.4018
May 76	12.4228	71.5969	8.3487

Note: Fixed Income Fund unit values reflect interest additions to achieve the guaranteed effective annual interest rate of 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 values — and the price at which new units are added that month.

'Mod' office buildings: from factory to site

by Karen Cromer

Modular construction is less expensive and less time-consuming than building with brick and mortar. A standard building takes from 12 to 14 months to construct, while a modular unit can take as little as five or six months from factory to final site.

"Modular construction has another plus," says H. Douglas MacNary, a project engineer at Oak Ridge National Laboratory who has the building of "mod" units as one of his assignments. "Since so much of the work is done at the factory, weather is practically no factor in building modules."

The Nuclear Division's involvement in modular construction began with the extension of Building 1000 at ORNL, which is the main office space

for the Energy Division. A second ORNL modular building, Building 6003, has almost been completed. Housing offices for the Physics Division, Building 6003 will help consolidate the division in the 6000 area. The accompanying photographs give a step-by-step account of the construction of this modular unit.

The 6003 program was conducted by Joe D. Huggins, design engineer; Jim P. Jackson, construction engineer; and MacNary.

A similar module at the Y-12 Plant is scheduled for occupancy this summer. It is Building 9102-2 and will temporarily house the Office of Waste Isolation (OWI). When the permanent OWI headquarters is completed, the building will be used for Reactor Division offices.



FLOOR-ON-WHEELS — The floors, walls and ceilings of modular buildings are constructed horizontally, complete with electrical conduit and integral bracing. The floor fixture is then mounted on a dolly which moves along tracks extending through the manufacturing plant. As the floor platform progresses down the assembly line, the walls and ceiling are positioned by hooks and clamped into place. Most of the modular construction is done at the manufacturing plant in Lenoir City.



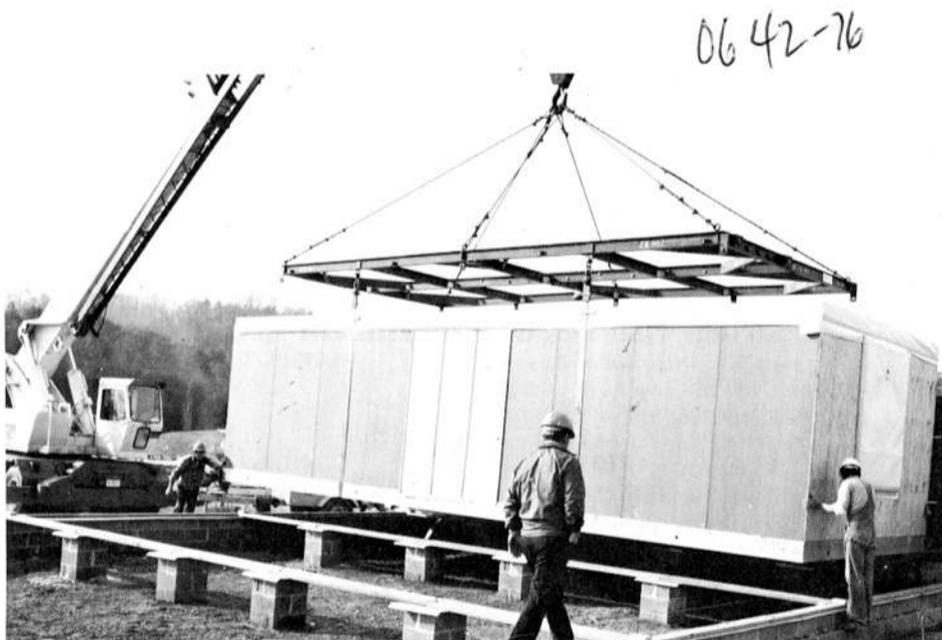
FOUNDATION SITE — While the modules are being manufactured (five units per day is possible), the site is graded. Utilities including sewers, electrical power, potable and sprinkler water, telephones and restroom facilities are brought to the building area. Peripheral footings and interior pads are poured, then block foundations are laid.



FINISHED "MOD" — Building 6003, ORNL's newly completed "mod," houses 29 offices for the Physics Division. It also contains two rest rooms, two janitors' closets, utility closets, drinking fountains and an inside and an outside stairway. The exterior of the unit has been bricked to match the neighboring 6000 buildings.



READY FOR TRANSPORT — When completed, the units are wrapped in waterproof shipping paper and rolled out of the building. A module which is ready to be delivered travels very well equipped. It has everything from windows to light fixtures, to venetian blinds, to office doors and telephone outlets.



POSITIONED BY CRANE — After the modules are brought to the site on low-bed trailers, a longboom, walking crane is used to "set" them. The modules are lifted and placed on the foundations starting from one end of the building. After the first floor is completed, the upper modules are placed. The lifting and placing takes about 20 minutes per module.

retirements



Six more Oak Ridge National Laboratory employees complete the list of those retiring at the end of June.

James P. Anglin took early retirement from his position as a maintenance supervisor in Plant and Equipment Division. Anglin, a 26-year employee, lives at 804 Bonnyview Avenue, Kingston.

Jess W. Burden, an applied health physicist in Health Physics Division, also took early retirement. He had been with Union Carbide 28 years. His home is at Powell.

James L. Hunt, a rigger in Plant and Equipment Division, has retired after 29 years of company service. He lives at 103 East Pawley Lane, Oak Ridge.

William F. McCullough has taken early retirement after more than 26 years of company service. He was an electrician helper in Plant and Equipment Division. McCullough's home is at Rockwood.

A 31-year employee, Curtis W. Terry took early retirement from his position as a pipefitter in Plant and Equipment Division. He lives at 393 W. Outer Drive, Oak Ridge.

Garrett W. Tyler, a staff engineer in Plant and Equipment Division, also took early retirement. A Union Carbide employee for 32 years, he lives at 7105 Stockton Drive, Knoxville.

Seven veteran Y-12ers retired at the end of June.

Carl M. Frazier, Shift Superintendent, joined the Y-12 forces in 1948. He lives at Route 18, Cross Lane Road, Knoxville.

Amos A. Gibbs lives at 723 Bird Street, Clinton. He retires from the Stores Department after more than 24 years company service.

Arthur K. Masters, Process Maintenance, retired with 22 years company service. He lives on Route 22, Dye Stone Gap, Knoxville.

Ira Sharp retires to his 5305 Rainbow Drive, Knoxville, home. With more than 30 years company service, he retires from Process Maintenance.

Clarence S. Sherrod, Alpha Five West Shop, came to Y-12 in 1960. He lives at Route 2, Rutledge.

Loal M. Tittle, Alpha Five West Shop, has more than 12 years

company service. He lives at Route 1, Oliver Springs.

Claude M. Williams, Standards and Surveys, joined Union Carbide in 1951. He lives at 106 Nesper Road, Oak Ridge.

Arvil C. Hughes, Shipping and Receiving Department at the Oak Ridge Gaseous Diffusion Plant, retired June 30, to his Athens home. He joined Union Carbide in 1945.

patents granted

To Forrest N. Case and Clyde E. McFarland, both of ORNL, for "Method of Tagging Sand with Ruthenium-103 and the Resultant Product."

To Earl V. Davis and Billy E. Foster, both of ORNL, for "Film Holder for Radiographing Tubing."

Information users meet

A Conference on National Energy and Environmental Information Resources in Oak Ridge was held recently to focus on nationally-known information centers and computerized information services located at Nuclear Division facilities and at ERDA's Technical Information Center in Oak Ridge. The meeting was sponsored by the East Tennessee Chapter of the American Society for Information Science (ASIS).

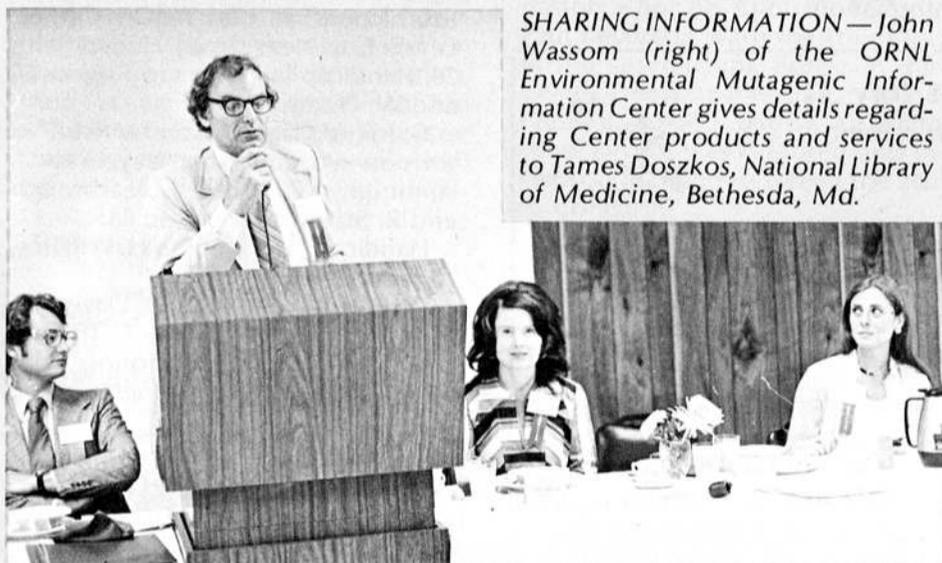
One hundred and twenty information users and others engaged in information activities, both from Oak Ridge and across the country, gathered for the one-day conference. It was the first major symposium to be presented by the East Tennessee Chapter.

ASIS officers responsible for conference planning and execution were James D. Cape, chairman; Emily

D. Copenhaver, Marie Burns, Bonnie C. Talmi and Charles E. Price. Others assisting included H. Fritz McDuffie, Pat Hartman, Helen Braunstein, Betty Galyan and Joy Huffstetler.



SHARING INFORMATION—John Wassom (right) of the ORNL Environmental Mutagenic Information Center gives details regarding Center products and services to Tames Doszkos, National Library of Medicine, Bethesda, Md.



CONFERENCE PARTICIPANTS—James D. Cape, chairman of the Conference on National Energy and Environmental Information Resources in Oak Ridge, introduces the luncheon speaker, Charles Coutant, ORNL Environmental Sciences Division; and conference committee members Marie Burns, ORGDP, and Bonnie Talmi, ORNL. Coutant's topic was "Energy and the Environment: Conflict or Compromise?"

next issue . . .

The next issue will be dated July 22. The deadline is July 14.

anniversaries

Y-12 PLANT
35 YEARS



Lewis

Philip S. Lewis Jr., Metallurgical Development, joined Union Carbide at its development laboratories in Buffalo in 1941. After serving in the U.S. Army, he worked with the Haynes-Stellite Company (then a division of Carbide) and came to Oak Ridge in 1968. He is a chemical engineering graduate of Massachusetts Institute of Technology.

He and his wife, Sue, live at 123 Normandy Road, Oak Ridge. They have three children, Mary Lou, Philip III and Billy.

30 YEARS

James E. Williams, Utilities Administration; Holbert E. Argo, Electrical and Electronics; Burrell A. Davis, Dispatching; James E. Miles, M-Wing Shop; Wilbur C. Olka, Dispatching; and Herbert G. Duggan, Y-12 Engineering Division.

25 YEARS

Amos R. Shamblin, J. R. Rutter, King C. Burgess, James D. Clapp, Ray N. Whitehorn, Thomas H. Jimmerson, Edward Owings, Jack R. Day, Omer J. Rhea, Carl M. Jenkins, Willie F. Ragsdale, Aurtha W. Mastin, Cecil N. Cook, Donald C. Hunt, Hugh T. Christie, Harold E. Alvey, Roy C. Smith, Sally B. Cornell, Robert H. Bacon, Joe Whittaker, Claude A. Reed and Randle E. Brown.

20 YEARS

Harold H. Clark and Elwood W. Tompkins.

ORNL

30 YEARS

Robert L. Sherman, Analytical Chemistry Division; Robert W. Holmberg, Analytical Chemistry Division; Clarence J. Hochanadel, Chemistry Division; Horace J. Wallace, Metals and Ceramics Division; John E. Francis Jr., Thermonuclear Division; Edward E. McCombs, Chemical Technology Division; Francis E. Harrington, Chemical Technology Division; William B. Howerton, Chemical Technology Division; Cyrus Feldman, Analytical Chemistry Division, and Walter G. Stockdale, Chemical Technology Division.

25 YEARS

Thomas A. Butler, Richard A. Lorenz, Leon Queener, John M. Chilton, Earl V. Davis, Elmer Slaughter Jr., Margaret R. Wallace, Glen H. Burger and Clarence E. Guyer.

20 YEARS

John C. Moyers, Richard M. Rush, Robert E. Meyer, James O. Stiegler, Charles E. Dunn, Joseph F. Willmering Jr. and Gordon G. Fee.

483 - 2, 5, 10, 15, 17, 22

recreationotes

Summer recreation schedule

- Monday Softball Leagues, Clark Center Recreation Park, 6-10 p.m.
Table Tennis League, Norwood Junior High School, 7-9:30 p.m.
Golf League, Southwest Point (Kingston), 5:30 p.m.
- Tuesday Pistol League, Oak Ridge Sportsmen's Association, 6:30 p.m.
Golf League, Deadhorse Lake (I-40 at Highway 162), 5:30 p.m.
Camera Club, Cheyenne Hall (Oak Ridge), 7:30 p.m.
second Tuesday of each month
Softball League, Clark Center Recreation Park, 6-10 p.m.
- Wednesday Rescheduling day for rained-out softball games when necessary, 6 p.m.
- Thursday Badminton (informal), Highland View School (Oak Ridge), 8 p.m.
Table tennis (informal), Highland View School, 8 p.m.
Golf League, South Hills (Oak Ridge), 5:30 p.m.
Softball Leagues, Clark Center Recreation Park, 6 p.m.
- Friday Family Bowling League, Tri-County Lanes (Norwood), 5:45 p.m.
- Saturday Golf tournaments as announced - monthly at area courses
- Sunday Badminton (informal), Highland View School, 6:30 p.m.
Table tennis (informal), Highland View School, 6:30 p.m.

Clark Center Recreation Park will be open through October 1, from 5 a.m. until 11 p.m. daily.

The Recreation Office has travel and vacation literature for employees, as well as membership and discount coupons for Disney World, Six Flags over Georgia and Opryland. For more information, call 3-5833.

Y-12 golf

Mike Emery parred the Whittle Springs course to take Y-12's tournament for June, and a three-way tie saw Danny Rowan, Bruce Hogg and Bill Wilburn take a 76 card each. John Hamilton's 73 handicap score gave him laurels in the first division, as Gene Huskisson placed second with a 78.

Herb Hensley's 77 was good in the second division, as Lanny Duke and Joe Raper put a 79 up for second honors. Handicap honors went to Tom Pappas and Jack Francis with an 83 and 78 respectively.

The third division belonged to D. L. Fortune, with a 90, and F. D. Clayton in second place with 91. J. E. Kincaid was handicap winner with 92; while Bill Freels placed second with 94.

ORGDP bowling

Team Six stands one point ahead of Team Ten, who is only one point ahead of Team Two and Seven in the K-25 Shifter's League. C. Nelson rolled hot recently, posting a game of 225 scratch, 241 handicap. J. Ward rolled a 568, 664 series. On the women's side of the alley, it was P. Bagley with a 503, 525 series.

Carbide Camera Club

The Carbide Camera Club has set its July meeting next Tuesday, July 13, at 7:30 p.m. at Cheyenne Hall.

Guest speaker will be Charles Tucker on Kirlian photography — an electrical technique for obtaining images of objects without the need of camera or lens. Tucker is with the Oak Ridge National Laboratory Photography Department.

Information on membership in the Club is available from Terry Domm, extension 3-3031.

Competition for July is nature slides.

Warm weather energy-saver

Buy the cooling equipment with the smallest capacity to do the job. More cooling power than necessary is inefficient and expensive. Energy-efficiency ratios (EERs) for most air-conditioning units should be available from dealers, and some window units are labeled to show the EER (the higher the EER, the more efficient the air-conditioner). If you don't see a label in the showroom, ask for the information.



PADUCAH'S DENIM DANCE — Paducah Plant employees recently enjoyed the informal atmosphere of the Denim Dance. As was expected, the "denim generation" arrived in full force to enjoy the music of "The Leaves of Autumn," a favorite band of Paducah's from the Louisville area.

ORGDP golf

The Southwest Point tournament for K-25ers went to D.C. Lannom, with a 79; and B. B. Bovee, with an 82. Handicap scores saw Lloyd Kahler and Cedric Patton tie, each with 80.

In division two, C. R. Harper scored low with an 84; and J. H. Ballard carded an 85. Handicap lows went to Virgil Williams, 84; and Henry McBride, 87.

Mike Friend took division three with a 95, and Carroll Lawson came in second with 97. H. C. Webb's 96 was the handicap low and John Human gained second place with a 97.

ORNL golf

A sizzling 69 score was registered by C. Brown, to take ORNL's June tournament at the YMCA Center, Lenoir City. Next came J. Hudson with 70. Handicap lows went to T. Akin, 76 and W. Prater, 77.

G. Joiner placed second with a 77 in division two, and a four-way tie saw J. Amburgey, F. Jones, J. Scarbrough and R. Starlin all score an 83.

Handicap lows went to H. Wiggins, 78; and G. Moore, 85.

Division three fell to D. Davis and C. Hunley, each with an 84. C. Thomas tallied an 85. Handicap honors went to F. Zupan, 88; and A. Singletary, 90.

Softball leagues

The ESD team and the Snakes still boast a perfect record in the Atomic League, as softball action gets down to mid-summer heat.

League standings follow:

ATOMIC LEAGUE		
TEAM	WON	LOST
ESD	7	0
Snakes	7	0
Shifters	8	1
Gashouse Gang	7	1
Bruins	6	2
Artie's Army	5	3
BMS-Bioradicals	5	3
Bio Rejects	5	3
Ecology	4	4
Beta 2 Bunters	3	4
Avengers	3	5
The Steelers	3	6
Ridge Runners	2	6
Mc's Pack	2	7
Outlaws	1	7
Rednecks	0	7
Hotdogs	0	9
NUCLEAR LEAGUE		
Barrier Bombers	7	3
The Streakers	7	3
Knuckle Balls	6	3
Terodactyls	6	3
Fes-Kids	5	3
Magnetic Fielders	4	3
Killer Bees	5	4
Swingers	4	5
Knockers	4	6
Thermos	2	5
Odds & Ends	2	6
Ding-Bats	1	8

Tee-Off Time Application for July 31

(Check Appropriate Plant)

- ORGDP — YMCA Center
- Y-12 — Southwest Point
- ORNL — Dead Horse Lake



_____ LEADER _____
 _____ Phone _____ Bldg. _____

Time Preferred

COMPLETE AND RETURN TO YOUR RECREATION OFFICE

Entries must be received prior to drawing on July 28, 2 p.m.

ORGDP — Building K-1001 — C Wing — MS 122
 Y-12 — Building 9711-5 ORNL — Building 2518

Tee-off times for all tournaments will be drawn on Wednesdays prior to each Saturday's tournament. Golfers are responsible for reserving their own carts by contacting the pro shop following drawing for tee-off times.

safety scoreboard

Time worked without a lost-time accident through June 30:

Paducah	93 Days	1,035,000 Man-Hours
ORGDP	105 Days	3,090,631 Man-Hours
Y-12 Plant	116 Days	3,193,000 Man-Hours
ORNL	233 Days	4,699,633 Man-Hours



Physician revolutionaries: 1776

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.)

Five of the 56 patriots who signed the Declaration of Independence on July 4, 1776, were physicians. Were they wild-eyed radicals? Did they meet in secret hideaways to plan ways to assassinate leaders of the opposition? What were Drs. Benjamin Rush of Pennsylvania, Oliver Wolcott of Connecticut, Lyman Hall of Georgia and Matthew Thornton and Josiah Bartlett of New Hampshire really like?

They were all pillars of the establishment! The twentieth-century concept of a zealot revolutionary certainly does not apply to these men. They were elected by Provincial Congresses in their own colonies to travel to Philadelphia to attend the Continental Congress. They were respected, intelligent leaders to whom the people delegated the responsibility of determining the form of their future government.

For a physician to reach this level of leadership and respect was remarkable when one considers the ineffectiveness of practitioners at that time. Only about one out of ten physicians had had formal university training and held an M.D. degree. Most had learned the profession as apprentices to older physicians, who also had had no formal training. They had only a few simple medicines, and surgery was performed only as a last resort.

Treatments primitive

Broken bones were set and splinted, abscesses lanced, wounds sutured and limbs amputated. All physicians struggled against impossible odds. A patient with a mangled or gangrenous leg had to be held down by powerful assistants while the leg was amputated. The preoperative dose of opium or alcohol dulled the pain only slightly and the patient screamed in agony. The surgeon had to work fast and have nerves of steel. Afterwards, the wound usually became infected, and if the patient were lucky, the infection would localize and eventually drain copious quantities of "laudable pus."

One of the major treatments at that time was "bleeding" the patient by cutting a vein on the back of the hand between the thumb and index finger. The hand was held firmly in a linen napkin, the vein lanced longitudinally and then the hand dipped into hot water so the blood would flow more freely.

In spite of the primitiveness of medicine in the colonies, many intelligent, hardworking men were

attracted to it. Physicians were probably held in higher regard than they are now. They were understanding advisors, could relieve some pain and suffering and had an enthusiasm for human aspirations and a compassion for individual frailties.

Backgrounds similar

Of the five physicians who signed the Declaration of Independence, three had M.D. degrees; two, Hall and Wolcott, had been classmates at Yale. Rush had had the best medical education available in England. The two men from New Hampshire had had no formal education but were obviously bright and read extensively.

All but Thornton came from families who had come to the colonies several generations earlier. Although from a Scotch background, Thornton had come from Ireland when he was four years old. The average length of residence in the colonies of the other four physicians' families was over 70 years, with Wolcott's ancestors having arrived in Dorchester, Mass., in 1630.

All five were Protestants, with two Presbyterians and two Congregationalists. Bartlett was a religious man, but his particular faith was not mentioned by his biographers. Hall became a minister and preached in a church in Fairfield, Conn., before he entered medicine and went to Georgia, and Rush seriously considered a career as a Presbyterian minister.

All these physicians were strong men and lived to a ripe old age. Thornton lived until he was 89 and the youngest to die, Hall and Bartlett, died at age 66. Bartlett had ten children. Even though Dr. Thornton didn't feel able to support a wife until he was 46, he then married an 18-year-old beauty and fathered five children.

Many played key roles

These men either were attracted to "politics" because of the excitement of the growing independence movement or because they were thought to be wise and capable leaders and therefore urged to participate. Benjamin Rush was the best educated and probably the best known of the physician delegates. He played a crucial role in getting a reluctant Pennsylvania to support the proposed Declaration of Independence.

Lyman Hall from Georgia wisely restrained the overenthusiastic revolutionary leaders from including



THIRD FACULTY INSTITUTE — The Health Physics Division at Oak Ridge National Laboratory is hosting the third annual Faculty Institute in Health Physics Technology, a clinic for instructors of courses in environmental sciences and/or radiological studies. The 10-week institute combines lectures with field training, and is conducted in cooperation with the Oak Ridge Associated Universities' Special Training Division. Myron Fair from Health Physics Division and Roger Cloutier and W. L. Beck Jr. from ORAU are heading the program. The 1976 participants are, from left: Stephen G. Schmelling, East Central University (Okla.); Chilukuri Santaram, Union College (Ky.); William M. Logan, District of Columbia Teachers' College; Roy E. Hampton, Milligan College (Tenn.); Ray C. Purdom, Kentucky Wesleyan College; William K. Bates, University of North Carolina; T. M. S. Namboodiri, Texas College; Jong H. Kim, West Virginia State College; Thomas N. O'Neal, Carson Newman College (Tenn.); Charles B. Graham, University of Tennessee at Martin, and Fair.

anniversaries

GENERAL STAFF

30 YEARS

Wilfred T. Ward, ORNL Systems and Management; Mary R. Arnette, ORGDP Management Services; and Mary O. McKinney, Purchasing Division.

25 YEARS

Helen R. Ball.

20 YEARS

Edward A. Woy.

ORGDP

30 YEARS

Robert A. West and Robert P. Milford, Engineering Division; John H. Pashley, Materials and Systems Development; Oscar Mitts Jr., Building Maintenance Department; Robert B. Winsbro, Enrichment Planning Department; James P. Deaton, Shop Services Department; Charlotte H. Goley, Janitors Department; and Stanley S. Stief, Manager's Special Projects.

25 YEARS

James H. Stewart Jr., Barton D. Simcox, Jack Duncan, Wiley R. Allmon and Howard O. Crane.

20 YEARS

Carroll J. Kelly.

PADUCAH

30 YEARS

John K. Phipps, Superintendents Division.

25 YEARS

James E. Dew, William G. Barrett, Marvin E. Wade, Rudy L. Hines, Vernice H. Turner, Waldo R. Gollhofer, James H. Wicker Jr., Lloyd W. Jenkins, Burlond R. Murphy, Robert B. Schroader, Rodney C. Smith, Charles F. Broach, E. Glen Yates, Robert W. Langston and Henry Finch Jr.

20 YEARS

Edward N. Cothron, Reynolds A. Goode and Donald E. Parker.

a statement on abolishing slavery in the Declaration. It might have destroyed the fragile unity which had been achieved.

Many other physicians played important roles in the Revolution. Thirty-six physicians held military commands and 15 of them attained the rank of brigadier general or higher. It was Dr. Joseph Warren of Boston who, on April 18, 1775, sent Paul Revere to warn the countryside of the approaching British. A third-generation physician, Samuel Prescott, joined him at Lexington. Later Revere was captured and only Prescott escaped to spread the alarm to Concord.

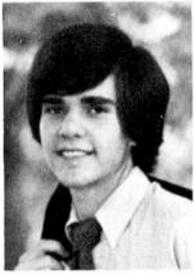
Physicians played a key role in our fight for independence not so much because of their medical skill but because of their courage, discipline and leadership. It was therefore fitting that when Dr. Matthew Thornton joined a carefully-ordered procession to celebrate the ratification of the Federal Constitution in 1788, physicians followed the clergy but led the lawyers!

(I am indebted to Dr. Henry Ruley who provided me the extensive accounts of the physician signers of the Declaration of Independence, which appeared in the *Harvard Medical Alumni Bulletin*, March/April, 1976.)

More scholastic awards told



Kress



Pawel

The sons of two Nuclear Division employees have been awarded Alcoa Foundation Academic Scholarships in the College of Engineering at the University of Tennessee.

They are Reid L. Kress, son of Tom S. Kress, Reactor Division, Oak Ridge National Laboratory; and Steven J. Pawel, son of Richard E. Pawel of ORNL's Metals and Ceramics Division. Both graduated from Oak Ridge High School this month.

Reid, who was president of the National Honor Society and a member of the Student Council, was listed in the 1974-75 "Who's Who Among American High School Students." A triple-letterman on the ORHS soccer team, he was named to the Tennessee East/West All-Star Team and is listed in the 1975-76 "High School Super Stars," to be published in June.

He will work this summer as a life-guard for the Emory Valley Pool.

Steven was a member of the National Honor Society and plays church league softball and basketball. He received a letter of commendation for his score of the Preliminary Scholastic Aptitude Test, the National Merit Scholarship Qualifying Test. During the summer he is working for the Oak Ridge Recreation Department.

Anthony P. Gouge, a National Merit Scholar from Karns High School, has been awarded a Rohm & Haas, Inc., scholarship to the University of Tennessee College of Engineering. He is the son of Perry S. Gouge, Analytical Chemistry Division at Oak Ridge National Laboratory.



Gouge

While at Karns, Anthony was editor of the school paper, a member of the band and president of the Science Club.

The Gouges live on Andes Road in Karns.

Warm weather energy-saver

Set air-conditioning thermostats no lower than 78 degrees. The 78-degree temperature is judged to be reasonably comfortable and energy efficient. One authority estimates that if this setting raises the temperature six degrees (78 degrees vs 72 degrees) home cooling costs should drop about 47 percent. (The Federal Government is enforcing a strict 78-80 degree temperature in all its buildings during the summer.)

If everyone raised cooling thermostats six degrees during the summer, the Nation would save more than the equivalent of 36 billion kilowatt hours of electricity, or two percent of the Nation's total electricity consumption for a year.

James A. Parsly has won the John M. Allen Mathematics Prize, awarded to the outstanding freshman student in math at the University of Tennessee. The winner is determined by a competitive examination, and the award consists of a gold medal and \$25.



Parsly

Parsly is secretary of the UT chapter of Pi Mu Epsilon, the mathematics honor fraternity. He participated in the UT College Bowl competition as a member of the only all-freshman team to reach the

quarter-finals.

He received a National Merit Scholarship to UT and was the 1975 recipient of the Bausch and Lomb medal at the Oak Ridge High School.

He is the son of Mr. and Mrs. Lewis Parsly, 108 Hutchison Place, Oak Ridge. His father is in the Reactor Division at the Oak Ridge National Laboratory.

John M. Gower has been awarded the Rensselaer Medal from Rensselaer Polytechnic Institute in Troy, N.Y.

The medal is an honor given to eleventh-grade students for outstanding achievement in mathematics and science. Only one junior from each of about 1,300 high schools is chosen to receive the award.

John, a student at Webb School in Knoxville, is the son of John C. Gower, Metals and Ceramics Division at Oak Ridge National Laboratory. The Gowers live at 708 Chateaugay Road, Knoxville.

wanted



ORNL

RIDE or JOIN CAR POOL from Kings Gate subdivision, west Knox County, to East Portal, 8-4:30 shift. Norman Teasley, plant phone 3-0169, home phone 966-9652.

CAR POOL MEMBER from Oak Ridge, vicinity West Outer Drive water tower to one or two miles southwest of water tower, to East Portal or north gate, 8:15-4:45 shift. Must have a car which will accommodate five persons. Stewart Dismuke, plant phone 3-1672; home phone 483-4006.

Y-12 PLANT

VAN POOL RIDERS from Cumberland Estates Shopping Center to any portal, straight day. Larry Bohannon, plant phone 3-5101, home phone Knoxville 637-9874.

ORGDP

ONE CAR POOL MEMBER from Jack Walker's on Kingston Pike, 7:45-4:15 shift, Portals 2 and 4. Call Sam, extension 3-3288.

RIDE from Hillside Apartments area, Oak Ridge, to K-29, straight day. Dean Little, extension 3-3013.

RIDE (will pay) from Briarcliff (off Emory Valley Road) to Portal 5, straight day. R. H. Stevens, extension 3-3405, 3-3131; home phone Oak Ridge 483-9505.



COAL BURNER COMPONENTS — Leeman E. Underwood, left, and James E. Brown, both of Y-12 Fabrication Division, display key components of a magnetohydrodynamic coal burner for the Arnold Engineering Development Center at Tullahoma. The cylinder at right requires 120 holes, each one-quarter inch in diameter and 11 and one-quarter inches deep.

Y-12 builds component parts for coal burner

The Oak Ridge Y-12 Plant has performed machining work on components for a magnetohydrodynamic (MHD) coal burner for the U.S. Air Force's Arnold Engineering Development Center at Tullahoma.

The MHD burner project, funded by the Energy Research and Development Administration, is designed to convert heat energy directly into electrical energy. The process involves burning coal and generating an ionized gas, then jetting it through a magnetic field to produce voltage.

Y-12 Plant craftsmen machined some of the combustion chamber hardware consisting of heavy sections of copper with a complex arrangement of cooling channels. The project involved the deep hole drilling of copper and use of the Plant's electron beam welding facilities.

nuclear division news



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