NUCLEAR DIVISION NEWS

UNION CARBIDE

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

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ORO-70 946

In June, July

Workshop Set To Strengthen Black Schools

A second summer workshop aimed at building the academic strength of the nation's colleges and universities with predominantly black enrollments will be conducted during June and July in Oak Ridge.

Sessions for faculty and administrators of black institutions, under the theme, "Higher Education's Response to the Needs of Society in the '70's," will be supported by the U. S. Atomic Energy Commission and the U. S. Department of Health, Education and Welfare.

Programs Develop

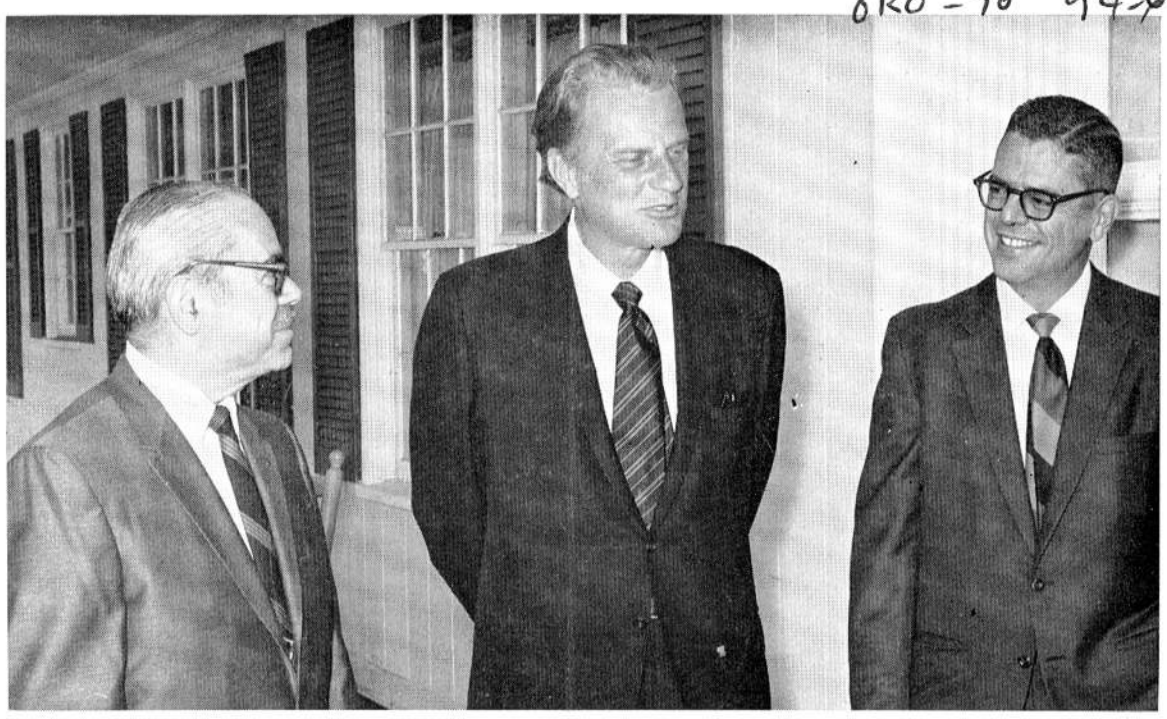
Last year's session emphasized opportunities available to students and faculty members of the black institutions for research support, research participation, and assistance in nuclear education activities under programs administered by the AEC, its national laboratories and contracting organizations.

It has resulted in a pilot cooperative education program conducted in conjunction with six black institutions by the Nuclear Division; development of a long-range proposal for strengthening engineering education at the six institutions; new cooperative relations between governmental and private agencies; and increased use by faculty and students of existing research participation and educational assistance opportunities at Oak Ridge National Laboratory.

Focus on Problems

This year's program will include two four-week sessions for faculty members (June 8-July 3 and July 6-31), and two one-week workshops for administrators (June 15-19 and July 20-24). Approximately 80 faculty members and 50 administrators are expected to participate.

The sessions will focus on problems likely to dominate the national consciousness during the next decade, on appropriate responses by colleges and universities, and, in particular, on the role of the traditionally Negro institutions of higher learning in helping society to meet these problems.



BILLY GRAHAM IN OAK RIDGE—Evangelist Billy Graham was welcomed to Oak Ridge recently by Roger F. Hibbs, President of the Nuclear Division, and S. R. Sapirie, Manager of Oak Ridge Operations, U. S. Atomic Energy Commission. Mr. Graham spoke to an audience of approximately 300 persons at the Oak Ridge Playhouse.

Lang, Levin, Kasten To Attend Nuclear Fuel Cycle Meeting

Three members of the Nuclear Division staff will play active roles in a symposium on Education and Research in the Nuclear Fuel Cycle to be held later this year at the University of Oklahoma.

Duncan M. Lang, Superintendent of Operations Analysis and Long-Range Planning Division, is serving on the program committee for the symposium, which is scheduled for October 5-7.

Two of the speakers will be from Nuclear Division facilities: Robert W. Levin, Paducah Gaseous Diffusion Plant, will discuss "Refining Conversion Enrichment"; and Paul Kasten, Oak Ridge National Laboratory, will speak on "Thorium Utilization."

The purpose of the symposium is to bring together engineers and scientists to discuss problems of mutual interest.

The symposium is sponsored by the American Nuclear Society, Southern Interstate Nuclear Board, U. S. Atomic Energy Commission and the University of Oklahoma.

1st Paducah FIT Class Begins

Seventeen trainees have begun a 40- to 44-week drafting course in the Functional Industrial Training (FIT) Program being conducted by the Paducah Gaseous Diffusion Plant in cooperation with Federal, Kentucky State, and area educational resources.

The course is the first under the new manpower-training project, which is similar to the Training and Technology (TAT) Program in Oak Ridge. The basic idea is to recruit, train, and help to find employment within area industry for disadvantaged individuals in the Paducah area.

In addition to the drafting course, the FIT Program will also begin classes in instrument repair and welding later this year.

The first 26 weeks of the drafting program will be taught by vocational teachers at the West Kentucky Area Vocational School. The remainder of the course will be conducted at the Paducah Gaseous Diffusion Plant, where the training emphasis will expand from drafting fundamentals to more specialized applications for industry.

In the second phase of the drafting course, the Paducah Plant will provide an experienced training staff including engineers, industrial supervisors and skilled craftsmen for shop, laboratory and related activities.

A Special Reminder: Bloodmobile Due Next Tuesday, Wednesday

The American Red Cross Bloodmobile is due in Oak Ridge next week from the Regional Blood Center in Nashville, Tenn. A total of 564 pints of blood is needed to qualify Oak Ridge and Anderson County for continued "blanket coverage."

Red Cross personnel and more than 100 volunteer workers will help to process donors during the visit. The Bloodmobile will be at First Methodist Church on Tulane Ave. on June 9 (from 3 to 9 p.m.) and June 10 (from 11 a.m. to 5 p.m.).

There is still time to volunteer and be scheduled to give blood by calling Red Cross number 483-5641.

Toll Enrichment Program Passes $1 Billion Mark

The Atomic Energy Commission has passed the billion-dollar mark in meeting the nuclear power industry's rapidly expanding needs for enriched uranium to fuel reactors.

Dr. Glen T. Seaborg, Chairman of the Commission, said the AEC has entered into 35 agreements to perform approximately $1.2 billion in toll enriching services over the next 30 years.

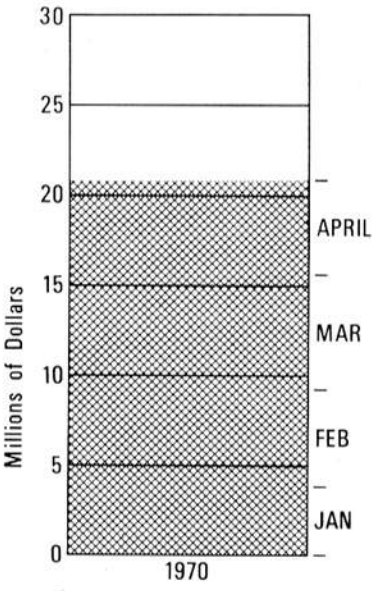
Toll enrichment, which began January 1, 1969, is an arrangement whereby privately-owned uranium is enriched in government plants. The customer furnishes uranium feed material to the AEC, pays an enriching charge, and in turn receives uranium enriched in the fissionable isotope U-235.

To date, the Commission has signed 11 toll enriching contracts with U. S. firms and 24 with customers in other countries. The AEC will be supplying the domestic companies with more than $666 million in services and those abroad with more than $514 million worth under the contracts.

Domestic firms that have contracted for enrichment services and the total to be provided for each are: Kerr-McGee Corpora-

(Continued on Page 6)

TOLL ENRICHMENT AT K-25 IS BIG BUSINESS



(Calender Year 1969 $45,000,000)

Scanning Electron Microscope 'Sees' Single Atom for First Time

Scientists can now "see" a single atom within a molecular structure through a new technique developed at The University of Chicago.

Using a scanning electron microscope designed and built by Albert Crewe, the University scientists saw and photographed single uranium and thorium atoms set in molecular chains and magnified a million times.

Comments by Crewe

Professor Crewe said the ability to see individual atoms within the molecules should greatly enhance research in many fields, especially medicine, biochemistry and genetics. He said the technique would be particularly valuable in analyzing chromosomes and cancer cells.

Commenting further on the technique's impact, Crewe said: The ability to see the atom, even of high atomic numbers, will certainly enlarge the scope of biochemistry and molecular biology because many chemical techniques have been established whereby foreign atoms can be introduced at known sites in complex molecules.

"The ability to see such atoms may make it possible to determine shapes of molecules and their relationships. In addition, the chemistry of this technique could be examined more closely if the atoms could be seen and the precision of atomic locations and the degree of reaction could be studied."

Atoms, the basic unit of all elements, measure about 5 angstroms, or 5 billionths of a centimeter in diameter. They are so small that they are usually studied indirectly.

Appear as Bright Spots

Because atoms are smaller than the wave length of visible light, it is impossible to reveal them with an optical microscope, no matter how powerful it may be. Although individual atoms have been imaged by the field ion microscope, until now there has been no way to view single atoms within a molecular structure.

The atoms that Crewe's team photographed, thorium and uranium, are "heavy," i.e., atoms with many electrons. On an oscilloscope attached to the microscope, these atoms appear as bright spots on a dark background.

In Crewe's microscope and in other scanning electron microscopes, a beam of electrons is scanned across an object or specimen and the electrons scattered from the structure in the specimen are used to generate an image on the oscilloscope.

Since the microscope's resolving power is 5 angstroms, Crewe and his team decided "to construct various molecules containing heavy atoms whose spacing was greater than 5 angstroms, to insure that the expected geometrical arrangement could be achieved and measure the visibility factored by visual observation of the signal from the detectors on an oscilloscope."

Placed on Carbon Film

In one experiment, two uranium atoms were placed on each side of a long organic molecule. In the second experiment, thorium atoms were incorporated in a long stream of organic molecules. In each case, the atoms were placed on a carbon film 20 angstroms thick.

The result, Crewe's team reported, is the appearance on the oscilloscope of pairs of dots when the carbon film with the uranium atoms was scanned. In the thorium experiment, the oscilloscope revealed teams of dots.

Safety Departments from Y-12, ORGDP Tackle Off-the-Job Accidents

Nuclear Division employees still suffer an alarmingly increased rate of off-the-job accidents, according to studies from the Safety Departments of Y-12 and the Oak Ridge Gaseous Diffusion Plant.

For instance, the first three months of 1970 show that the three plants in Oak Ridge have accumulated in excess of three million safe hours at each plant without a disabling on-the-job injury. Regrettably, however, off-the-job accidents continue to extract their deadly toll from our co-workers. Two ORGDP employees have lost their lives away from the job; 11 others were so severely injured that they lost four or more days away from work. In Y-12, in 1969 103 employees lost time from work due to an off-the-job accident, compared to only four on the job!

Y-12 alone lost 9,402 days last year in off-the-job disabling injuries. Up to this point of 1970, the plant has not had an on-the-job diabling injury; and substantial reduction has been made in the number of disabling jobs at home, at play and on the roads. The stage is thus set for the entire month of June when total war is declared on home accidents, accidents at play, and traffic mishaps. Y-12 employees suffered 31 per cent more disabling injuries at home last year as compared to 1968.

'Caution and Know-How'

Off-the-job injuries are everyone's problem . . . not only from the standpoint of our personal health and welfare, but we must also be concerned with the loss of skill and productivity occasioned by these off-the-job accidents and, therefore, cannot "tune out" the significance of the problem or just wait for it to go away.

"A little caution and a little know-how can prevent many of these tragedies," says the National Safety Council. Each year, on the average, 6,800 people drown accidentally in the United States. Ironically, reports the National Red Cross, more than half of these drownings occur within 40 feet of safety.

The Council also estimates that thousands of lives could be saved each year with the use of seat belts.

A study made by the Council reveals the more than a third of fatalities of children at play occur during the summer quarter of the year. The yard is the most dangerous play area, much more so than inside the house, or on the school playground. Boys are twice as likely as girls to get hurt while playing.

During June, Y-12 safety efforts will concentrate on accidents away from the job. Available for showing is a film "There's No Place Like Home — For an Accident." Arrangements for the showing of the film may be made through the safety department at 3-7741.

Many Problems Faced

Continuous education in safety efforts to reduce home accidents is the goal of both Y-12 and ORGDP. Many facets of potential dangers around home are discussed frequently.

The potential poisons lurking around home were recently publicized at ORGDP. The seeds of the bright, scarlet fruit of the yew, or ground hemlock, contain dangerous concentrations of an alkaloid which may cause sudden death, the article pointed out. Children have often suffered illnesses from using the stems of elderberry plants as blow guns. All parts of azaleas are considered to be toxic to humans. The rhododendron, prevalent in this area, was once used by the Delaware tribe of Indians to prepare a suicide potion.

Lawnmowing, a hazard which began in 1919 when a citizen used a washing machine motor attached to his mower, adds to the summer hazards of the employee at home. Many Nuclear Division families have sustained painful injuries trimming or mowing the grass. An Oak Ridge National Laboratory employee in Y-12 recently inspected his mower blade before putting it into summer action, and discovered a dangerous crack in the blade. His wise inspection may have saved him or a member of his family from a painful injury.

Individual Responsibility

Motor vehicle accidents claimed more than 55,000 lives last year in this country. Thus the American highways become the greatest threat to life and limb in existence. A periodic inspection of a car might insure that no faulty part or weakness could cause a disaster.

Action from the Safety Departments alone cannot reduce home accidents. It is individual action and individual responsibility that can make a positve program to reduce or elminate these painful injuries.

Is your home a hazard?

Is your family getting maximum protection through education and awareness of existing problems of safety?

ORGDP

LADDER SAFETY—C. R. Lay of the Separations Systems Division at ORGDP observes the safety rules for the use of ladders as he cleans the windows of their Kingston home. Mrs. Lay holds the ladder and directs from the ground.

ORGDP Safety Bulletin Emphasizes Seat Belt Factor in Saving Lives

A recent Health and Safety Bulletin from Oak Ridge Gaseous Diffusion Plant emphasized the good driving practices necessary for the prevention of automotive accidents. High on the list, according to ORGDP safetymen, is the seat belt.

The cost of seat belts is low (compulsory 'extras' now in new cars) and the benefits of comfort and protection are high. Seat belts are much like insurance, but more important—while insurance protects your pocketbook, seat belts protect the lives of you and your family.

Summarizes the ORGDP bulletin:

1. Seat belts increase the wearer's comfort both in terms of support and improved posture, and they also reduce driving fatigue.

2. They give him better control of the car. On corners and sharp curves, as well as during sudden stops, they keep the driver securely in place, and in control of his vehicle, so everybody is safer.

3. It's a mark of intelligence and concern for others, as well as for oneself, to adopt every available method, every device, to ensure highway safety. Seat belts are an important means towards this end.

4. The simple act of wearing a seat belt seems to improve a drivers alertness, and he becomes a better driver.

5. No other single investment can bring higher returns in safety, security, and comfort than seat belts.

The bulletin further points out that seat belts are mandatory for drivers in Government owned vehicles.

121745

BUCKLING UP FOR SAFETY—The Noble G. Young Jr. family is fully aware of the value of the seat belt in the family auto. They are shown leaving their Burchfield Drive, Oak Ridge, home with a seat belt around. Young is in Alpha Five's West Shop.

Home Safety – Aerosol Cans

Aerosol cans can explode violently when subjected to heat, warns the National Safety Council.

The Council suggests the following precautions:

- Read the label and use the contents exactly as directed.
- Don't throw empty aerosol containers in the fire or incinerator. Although seemingly empty, the cans still contain some gas, which expands when heated and may cause an explosion.
- Don't place aerosol cans on stoves or in any hot area, even the sun. Some aerosol products left in the trunks of automobiles have been known to explode when the car was parked in the sun.
- Don't use flammable sprays around flame sources. In tests, spray vapor has caught fire, shooting flames seven feet out of the mouth of the can.
- Use spray paints, lacquers, insecticides and other toxic aerosol products only with good ventilation. If cou feel drowsy, dizzy or nauseated, stop work immediately to get fresh air.
- Before discarding the can, always depress the operating valve until all pressure is relieved. Better yet, tape the valve open.

Accident Prevention

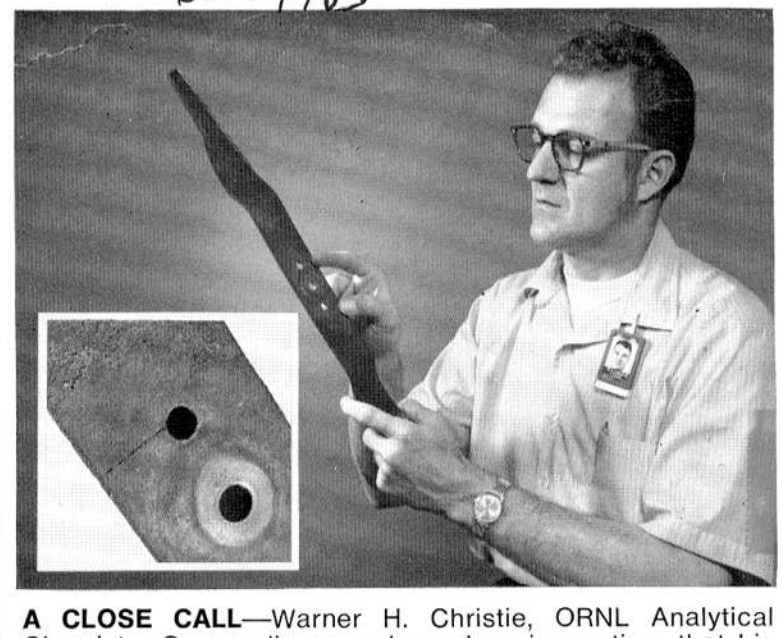
Powermower Blade Inspection Reveals Potential 'Flying Missile' for Summer

With the coming of Spring, Warner H. Christie, Oak Ridge National Laboratory Analytical Chemistry Group, recently pulled his power lawnmower out of winter storage to condition it for the grass-mowing season. He had removed the blade of the rotary-type mower for sharpening. Upon close inspection after the sharpening, he noticed a fractured place that started at one of the bolt holes used to secure the blade to the drive shaft and the break extended from the hole to the edge of the blade.

Christie's alertness in detecting this break likely spared him or some member of his family a painful injury. Obviously, one end of the blade, with only a minimum amount of stress, was on the verge of becoming a very dangerous flying missile.

The Safety Department urges that you check your power lawnmower for breaks. Don't wait for an accident to occur and then wish you had checked it. It's too late then.

6-14783



A CLOSE CALL—Warner H. Christie, ORNL Analytical Chemistry Group, discovered on close inspection, that his lawnmower blade was cracked. The blade would have made a very dangerous flying missile had it been put into Spring service.

UNION CARBIDE

—Y-12 BULLETIN

Thursday, June 4, 1970

6-14148

Y-12ers in Karns Community Spark Civic Programs to Aid Recreation Needs

There's a sign over in Karns that reads, "Future Site of Karns Community Park." Planned for the park are a baseball and softball field, hiking trails, picnic areas, Boy and Girl Scout camping grounds, and a community club house on the 26 acres of land.

The chances are they'll have one of the nicest parks around, too. Considering the enthusiasm that is generated around Karns by its citizens, many of whom are Y-12ers.

Take Carl Frazier, for instance. Carl, in the Plant Shift Superintendent's Division, is president of of the Karns Lions Club. In a story recently in the Knoxville Journal, Carl smilingly officiated at the unofficial opening of the Karns community pool.

Swimming Pool

This was how they built the pool, first they sold memberships at $300 a family . . . 125 of them. Then there were raffles, white elephant sales, flea markets, spaghetti suppers, pancake suppers, and "anything else we could think of to raise money," Frazier told Journal reporter Sandra Clark.

Saturday, May 23, was the big day. The pool wasn't quite full, Frazier explained, because it takes five days and nights to get enough water to fill the 165 by 47 and one-half foot pool. "You can't run water full-stream during the day because it reduces water pressure on all the houses in the neighborhood," he explained.

'Sight' Program

Frazier and the club tackle 'lion-type' programs, too. In 1947, members decided they needed a football field. They constructed "the best field around" with lights, public address system, score boards, bleachers, fencing and a press box. Later they added a field house for the players.

One of the pet projects of the club is sight conservation. They contribute money to the Volunteer Blind Industries of Morristown, furnish eye examinations for needy school children, sponsor a boy to Boys' State a a girl to Girls' State each year, and sponsor a pee-wee football team.

Others Are Active

The Lions Club have sponsored the eye bank. When Lou Doney was head of the club, it was covered in The Bulletin and an appeal for the bequeathing of eyes to the bank was made.

Ed Gammon, another Y-12er, is past president of the Karns Lions Club.

Frazier has time also to be president of the Anderson Sportsmen Club and a member of Atomic Hunters Inc.

So, don't tell the Lions over in Karns they can not do something. They might just prove you wrong.

Uranium Shipped For Indian Point

The Oak Ridge Gaseous Diffusion Plant has completed shipment of a $7.8 million order of enriched uranium that eventually will be fabricated into fuel for a nuclear power plant in New York.

S. R. Sapirie, manager of the AEC's Oak Ridge Operations, said the order represents 65,663 pounds of uranium enriched to 3.20 per cent in the isotope U-235. The material was shipped in the form of uranium hexafluoride under the Commission's lease program.

The ultimate destination of the uranium is Unit Two of the Indian Point Station being built at Indian Point, N. Y.

After leaving Oak Ridge, the material went to the Nuclear Materials and Equipment Corporation at Apollo, Penn., for preliminary processing. It will then go to the Westinghouse Element Corporation at Pittsburgh, for fabrication into fuel elements.

Indian Point Unit Two, owned by the Consolidated Edison Company of New York, Inc., is a pressurized water reactor that will produce 873,000 kilowatts of electricity.

More patient pedestrians mean less pedestrian patients.

FORMER DIVISION SUPERINTENDENT H. F. Smith, Jr., standing right, awards the 'We are Number 1' award to T. R. Webber, superintendent of the Fabrication Services and Fabrication Engineering sections of the division. Others in the action of the divisional safety committee are, seated from left, Loren Lawhorn, Safety Department; F. V. Tilson, superintendent of the General Machine Shops; C. E. Hensley, superintendent of Production Machining; Fred W. Jones, formerly superintendent of the Fabrication Division Engineering Section; and C. E. Johnson, superintendent of the Safety Department.

Fabrication Safety Seeks Number One

The Fabrication Division recently introduced a new safety incentive award program to promote safety in the 30-plus shops and groups within the division.

The new system eliminated the negative "Boner of the Month" award which went to the group with the sorriest safety performance during the month. The new "We are Number 1" award is judged monthly and given to the department in Fabrication that shows a greater interest, or better safety performance than the other groups.

L. A. Taylor, general foreman of the Tool Grinding Department, recently accepted the award for his group having been singled out for special recognition.

Fabrication Services and Fabrication Engineering Sections also received the "Number 1" award. Coincidentally, T. R. Webber, superintendent of this section, was the last recipient of the "Boner of the Month" award before it was retired.

The division is one of the large production divisions in the plant. Its safety interest and educational efforts have contributed greatly to the plant's overall safety program.

PEST REDUCTION

Radiation sterilization of laboratory produced insects may reduce the use of toxic pesticides, according to Chairman Glen T. Seaborg of the U.S. Atomic Energy Commission. The sterile pest is released in infested areas where it competes with its wild counterpart, but produces no offspring, thus causing the pest population to dwindle.

PASSING ON THE AWARD—T. R. Webber awards the 'We are Number 1' award to L. A. Taylor. It was the quality of the overall safety performance of the Tool Grinding Department that resulted in that group being singled out for special recognition recently.

A METHOD FOR PRODUCING Porous Metal Products' has brought J. J. Asbury a customary Dollar Letter announcing the filing of a United States patent application. J. M. Schreyer, head of Chemistry Development, right, presents Asbury the honorarium.

Jenkins Rites Held Thursday, May 28

William T. Jenkins, Process Maintenance, died Tuesday, May 26, in Maryville. A native of Gantts Quarry, Ala., Mr. Jenkins came to Y-12 October 13, 1954, after working with the Tennessee Valley Authority and Knoxville Utilities Board as a pipefitter.

He served in the U. S. Air Force during World War II.

Survivors include his wife Mrs. Garnet Towe Jenkins, daughters, Mrs. Frances Cutshaw, Maryville; Mrs. Lois Franklin, Opelika, Ala.; son, William Allen Jenkins, Maryville; eight grandchildren; sister, Mrs. Jewell Bass; brothers, John T., Bowling Green, Fla.; and stepmother Mrs. Annie Jenkins.

The Jenkins home is at 6 Byerley Street, Maryville.

Funeral services were held Thursday, May 28, in Miller's Funeral Home, Maryville, with interment in Sherwood Memorial Gardens. The Rev. Gordon Stallings officiated.

Sincere sympathy is extended to the Jenkins family.

All the care on earth cannot equal one child's worth.

Ion Plating Topic For Bell Paper

Richard T. Bell

Richard T. Bell will describe the special plating applied to fabricated nuclear fuel elements at an international meeting this month.

He will discuss "Aluminum Ion Plating of Uranium-Molybdenum Alloy Fast-Burst Reactor Elements" at the International Vacuum Metallurgy Conference in Anaheim, Calif., June 17-18.

The ring-shaped elements were ion-plated with aluminum to protect the uranium alloy from oxidation. The ion plating process involved placing the items to be plated within a vacuum environment and bombarding them with accelerated ions of aluminum.

The fabrication work was performed for a nuclear research installation.

Carbon Materials Subject of Paper

Carbon technology developments at Y-12 will be discussed at two national meetings this month.

Development engineers J. L. Cook, Y-12, and O. B. Harris, Oak Ridge National Laboratory, have co-authored a report entitled "Thermal Expansion and Anisotrophy of Carbon-Carbon Composites. The paper will be presented at the Second Symposium on the Thermal Expansion of Solids in Sante Fe, N.M., June 10-12.

The paper discusses the testing of the physical characteristics of carbon fibers which had been fabricated by various processes into completed forms.

"Carbon, the Rediscovered Element," will be presented by Bradley Napier, Jr., Y-12 Plant chemical technician, at the American Society of Certified Engineering Technicians' annual meeting in Little Rock, Ark., June 25-27.

Napier will describe the development of carbon materials for a wide variety of potential applications ranging from use as heat-resistant construction materials to transplant items for the human body. He will point out that carbon can be made into such products as diamonds, graphites, yarns, woven cloth, knits, foams and carbides.

Carbon developmental work is performed at Y-12 in support of various U. S. Atomic Energy Commission programs.

MOST IMPORTANT LESSON

When asked once what was the most important lesson that Hollywood has taught her, Ann Sothern replied without hesitation, "That the most important things in life are faith, simplicity of living and thinking, and following the Golden Rule."

Early June finds more Y-12ers adding stature to their Union Carbide Corporation tenure. Congratulations.

25 YEARS

James B. Sykes, Materials and Services Administration, June 5.

Hattie V. Burton, Building Services Department, June 6.

Ruth E. Andrew, Laboratory Operations, June 6.

Helen M. Claffey, Metallurgical Development, June 9.

Winfred O. Elam, Fire Department, June 11.

E. Otis Rackley, General Shop Job Liaison, June 13.

Leeman G. Pack, Dispatching Department, June 15.

20 YEARS

James E. Dunlap, Salvage Department, June 5.

Jake O. Harvey, Process Maintenance, June 5.

Jack Spears, Buildings, Grounds and Maintenance Shops, June 6.

Roy L. Chrisman, Buildings, Grounds and Maintenance Shops, June 9.

Omer L. Evans, Buildings, Grounds and Maintenance Shops, June 9.

Martin W. Jones, Electrical and Electronics, June 12.

Charles E. Gaut, Process Maintenance, June 13.

John W. Powell, Area Five Maintenance, June 14.

George G. Everett, Buildings, Grounds and Maintenance Shops, June 15.

15 YEARS

Jack L. Finchum, Utilities Administration, June 1.

Tom H. Cordle, Material Specimen Shop, June 1.

George H. Blakely, General Weld Shop, June 6.

Morris Dupee, 9766 Machine Shop, June 10.

Floyd E. Clevenger, Buildings, Grounds and Maintenance Shops, June 11.

Lanford Duncan, A-2 Shops, 9212, June 12.

Ernest L. King, General Metal Fabrication Shop, June 17.

10 YEARS

Lawrence S. Hawk, Buildings, Grounds and Maintenance Shops, June 6.

Charles E. Norman, Data Processing, June 6.

Frederick W. Postma Jr., Laboratory Development, June 13.

Wesley R. Tuck, General Machine Shop, June 13.

M. Eugene O'Hara, Dimensional Inspection, June 13.

Charles W. Wilson III, Process Analysis, June 15.

Stores' J. C. Stutts Rites Held May 28

Funeral services for James C. Stutts, Sr. were held Thursday, May 28, in Loretta, Tenn., with burial in Milner's Chapel Cemetery, near Florence, Ala.

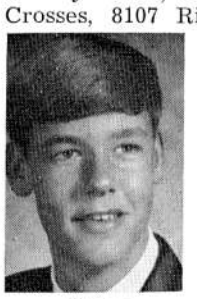
Mr. Stutts died at his home, 192 S. Purdue Ave., Tuesday, May 26. He was employed in the Stores Department, coming here June 1, 1951. He was a native of St. Joseph, Tenn.

Survivors include his wife Mrs. Nancy Stutts, son James C. Stutts, Jr., and a sister, Mrs. Jack Oldham, all Y-12 employees also. Also surviving are two grandchildren, two daughters, Mrs. James A. Johnson, and Mrs. Bruce R. Houck, Florence, Ala.; and a sister, Mrs. Louise Krone, Los Angeles, Calif.

Sympathy is extended to the Stutts family.

Y-12ers' Offsprings Gain School Honors

Tony Cross, son of the Cleois Crosses, 8107 River Drive, Oak Ridge, has signed a grant-in-aid with Belmont College, Nashville. Tony will attend Belmont on a basketball scholarship.



Tony

The six-foot-five - and - one-half - inch forward scored 13 points average his senior year at Karns, and averaged 14 rebounds per game. He made the All Tournament Teams of the R. E. Graham Invitational, and District Seven and Region Four tournaments.

Tony's father is in Y-12's Criticality Studies.

* * *

Ronald J. Bright, son of the George R. Brights, has been elected president of the Student Council at Powell High School. He will be a senior at Powell this Fall where he is active in sports — including both varsity basketball and football.

Ron

Ronnie's father is in the Engineering Section of the Electrical and Electronics Department.

* * *

Eddie Tinnel, son of the Paul Tinnels, Lenoir City, placed fourth in scholastic honors at Lenoir City High School recently. He plans to enter the University of Tennessee to study aerospace engineering. Among his many hobbies are model rocket - building and launching, coin and rock collecting. He was in the LCHS band for four years, and for the past three was first clarinetist. A member of the National Honor Society, he is an active member of the First Baptist Church where he sings in the choir.

Eddie

His father is in Materials Fabrication Development; his mother, Barbara, formerly worked in Y-12 and ORGDP, and he is the only grandson of Vena Mae Summitt who retired from the Cafeteria last Fall.

Recreation calendar

Monday, June 8, 15

Softball League: 6:15, 7:30, 8:45 8:45 p.m. Pinewood field.

Tuesday, June 9, 16

GOLF: Melton Hill League, after work.

GOLF: South Hills League, after work.

Softball League: 6:15, 7:30, 8:45 p.m. Pinewood field.

Thursday, June 11, 18

Softball League: 6:15, 7:30, 8:45 p.m. Pinewood field.

Sunday, June 14

SKEET TOURNAMENT: 1 p.m. Oak Ridge Sportsmen's Association.

All-Carbide Pistol League: 6 p.m. Oak Ridge Sportsmen's Association.

the CHOMICAL world of Rosenthal

"I hear they're looking for a name for a new fiber discovered down in Chemical Research."

Benny Crass Cops Wallace Hills Golf Tournament with 3-under-par 69 Score!

Benny Crass fired a three-under-par 69 to take Y-12's second big golf tournament of the year Saturday at Wallace Hills. A total of 145 Y-12 golfers braved the pre-season heat in the Blount County fairways.

Sharing low scores in the first flight were E. N. Rogers, George Zurawick, D. E. Littleton and Paul Braden . . . all with 67 strokes in handicap scoring.

Crass was followed in scratch scoring by three other Y-12 linksmen, Art Hines, Charles Baxter and George Dorsey, all with 74.

Carl Dorr counted 16 pars; R. E. Plemons and Frank Tuck, 15.

SECOND DIVISION

Hugh Richards went five over for a 77 to take the second division, four strokes in front of Jack Gresham and Jack Gamble. J. N. Loupe and Jack Francis fired 85's.

Handicap scoring lows went to Dale Phillips, Kyle Johnson, Ron Green and Harold Alvey . . . all with 70.

J. D. Brown scored 10 pars; B. B. Stanton eight.

THIRD DIVISION

W. A. Rutherford carded an 81 for low scoring in the third division of golfers. He was followed by Mont Kendrick, 85; Fred Hammond, 87; and George Peterson, 88.

Handicap honors were gleaned by Fred Wetzel, 65; Robert Thomason, 67; W. K. Forrester, 68; and Dan Rowan, 69.

Larry McDonald parred eight holes while H. C. Nichols and Rus Dagley parred seven.

FOURTH DIVISION

Harold Bell improved his lot with an 88 for low scratch scores in the fourth flight. G. L. Holland and R. J. Mustin tied for second place honors with a 90. C. A. Boyd rounded off scratch winners with a 96.

Handicap firings belonged to S. H. Stark, 64; R. F. Milligan, 65; D. H. Johnson, 70 and J. D. Griffin, 73.

Bill Ramsey tallied six pars; H. P. Prewett, five.

June's battle site shifts to the lakeside greens of Southwest Point near Kingston where golfers will compete Saturday, June 27. An application appears below for foursomes to get their name in the pot for tee-off time drawings.

Grubb-Sherrod Spark Tees At Melton Hill

Bill Grubb and Walt Sherrod walked away with honors in the Melton Hill Golf League last week, both coming in with 34's. Walt had an eagle and a birdie . . . Grubb had three birdies!

Team	W	L
Grubb-Braden	6	0
Reed-J. Sherrod	5	1
Rogers-Brown	5	1
Buxton-Crowder	5	1
Lawhorn-Lovett	5	1
W. Sherrod-Wyrick	4	2
McDonald-Green	3	3
Nixdorf-Holdaway	3	3
Wetzel-Hatmaker	2	4
Alvey-Pryson	1	5
D. Thomason-R. Thomason	1	5
McElroy-Riggs	1	5
Waldrop-S. Babb	1	5
J. Babb-Baker	0	6

Ray Ellis's 38 Is Low On South Hills Fairways

Ray Ellis paced South Hills golfers last week, as the 12-team league teed off on its initial run. He scored a 42 score, brought down to a 38 with handicap figured.

Phillips-Loupe led duos with 91 scratch, 79 handicap scores.

Tee-Off Time Application For Southwest Point Golf Tournament

Kingston, Tenn.

Saturday, June 27

Foursome

_____, Leader

_____

_____

_____

Leader's office phone _____

Home phone _____

Tee-off Time Preferred _____

Fill out completely and return to the Recreation Office, Building 9711-5. Deadline for entering is 4:30 p.m. Wednesday, June 24. Tee-off times will be drawn the next day, Thursday, June 25 at 8 a.m.

THE CARBIDE COURIER

Thursday, June 4, 1970

K-25's Fred Johnsson Directs Boys' Club Chorus Here

Fred Johnsson

Not every boy participates in competitive sports. In the fall of 1967, Fred Johnsson noticed a number of boys who were not involved in football and wondered if something could be done to get the boys engaged in some constructive group activity. He talked with officials of the Boys' Club of Oak Ridge and the idea of a Boys' Club Chorus was born. Since then Johnsson has been the first and only director.

The first appearance of the Boys' Club Chorus was at the dedication of the community Christmas tree in 1967. They presented a full evening concert the following spring. The chorus has participated in Elks Flag Day ceremonies and Eagles and Elks Mother's Day programs. Members have sung for the kick-off breakfast for the United Fund drive the last two years, and for a number of business and professional organizations. The Boys' Club is one of the agencies supported by our contributions to the United Fund.

The chorus is scheduled to sing for the residents of the Elks National Home in Bedford, Va., later this month and will also sing for the dedication of the new Boys' Club building.

There are approximately 20 boys in the chorus. Elaine Harrison, a senior in Oak Ridge High School, is the accompanist for the group.

Johnsson is inspection foreman in the dimensional and instrument inspection department, Laboratory Division. He started singing when he was nine years old in the Newport, R. I., Episcopal Church and sang in the same church for more than 25 years. He is a long-time member of the Oak Ridge Community Chorus and has carried leading roles in four operas produced by the chorus. Fred and Mrs. Johnsson, the former Doris Fraley, also of Newport, have appeared in a number of Playhouse productions.

25-Year Vets Contribute To ORGDP's Safety Stand

This year more than 450 ORGDP employees will receive either a watch or a clock, along with a plaque, from Union Carbide Corporation in recognition of 25 years of loyal service.

These employees are convinced that their work methods and habits are sound and of proven value. From a safety viewpoint there seems to be a firm basis for this belief. For example, there are currently 567 employees with 25 or more years of service at ORGDP, 460 of whom have never experienced a disabling or serious injury! These employees have reached a total of more than 12,000 injury-free man-years, or about 25 million safe employee hours!

SAFETY SCOREBOARD

OUR PLANT
Has Operated
3,944,000 Safe Hours
Through May 27
Since last disabling injury on August 19

LATEST PATENT APPLICATIONS—Members of the Separation Systems Division line up to receive Dollar Letters. From left are R. W. Wavrick, W. S. Wendolkowski, D. A. Waters, E. F. Babelay, J. F. Fourman, R. E. Brockwell and E. C. Evans, division superintendent, who presented the letters.

Women Drivers Would Make Good Poker Players

According to data from Chicago, Illinois for a typical month, male drivers are cited proportionately more often than females for following too closely, speeding, and making improper turns. The female driver, however, failed to yield right-of-way far more often than male drivers. This should surprise no one; most surviving drivers have long since recognized the folly of trying to bluff a woman driver at an intersection.

Separations Systems Staff Members Receive Patent Application Letters

Six members of the Separations System Division staff have received patent application awards. They are: R. W. Wavrick, Mechanical Development Department; W. S. Wendolkowski, Fabrication Development Department; D. A. Waters, head of Mechanical Development Department; E. F. Babelay, Associate Technical Director; J. F. Fourman and R. E. Brockwell, Mechanical Development Department.

Babelay is a 25-year employee with Carbide and has made many contributions to the success of the programs he has supervised. He lives in Knoxville with his wife, Mary, a son, Edwin Jr., and daughter, Cleo. Another daughter, Frances, is married and lives in New Jersey.

Brockwell is also a long-time employee of the Corporation. He began work here in 1946, following service with the U.S. Navy. He, his wife Sylvia, and daughters Sara and Rebecca and Carolyn live in Oak Ridge. A son, Charles, is serving in the U.S. Navy.

Fourman joined the ORGDP staff in 1951, shortly after graduating from The University of Tennessee. He and his wife, Marilyn, live in Knoxville.

Waters joined Carbide in 1960. He received degrees from Yale University and North Carolina State University. He and his wife, Jacqueline, sons, Christopher and Dean, and daughter, Heather, live in Oak Ridge.

Warwick joined the ORGDP staff in 1967, after receiving degrees from the University of Florida and University of Virginia. He and his wife, Patricia, are residents of Oak Ridge.

Wendolkowski came to work here in 1947. He received a degree from Mississippi College, and has also attended The University of Tennessee. Walter and his wife, Joyce, and daughter, Susan, live in Oak Ridge. Another daughter, Debra, is a student at UT.

FINISH AMA LEADERSHIP COURSE—Another group finished the American Management Leadership course—from left, seated, are Dan Johnson, course discussion leader; Sam Keith, Werner Offhaus, John W. Bishop, Ralph B. Farrar, B. O. Griggs and Henry Luckett. Standing are Dr. L. R. Lockett, lecturer for the final session; Lee Halstead, Emmerson Arnold, C. C. Hull, Ted Kwasnoski, L. W. Anderson, C. R. Barlow, D. E. Williams, Charles Johnson and M. B. Tate. Another member, W. R. Templin, is not pictured.

ORGDP Wives Aid In YWCA Service

The Courier has recently been printing the names of K-25 employees who give of their time and energy to the various agencies supported by our contributions to the United Fund. In this issue we want to acknowledge the wives of K-25 employees who volunteer their services to the YWCA. These ladies serve as board members, club leaders, and as teachers of the various activities sponsored by the Y.

Following is a list of the wives of K-25ers who serve the YWCA in some capacity:

Mrs. Richard Aiken
Mrs. L. L. Anthony
Mrs. B. L. Geldmeier
Mrs. Brady Holcomb
Mrs. T. W. Morton
Mrs. Paul Pickrell
Mrs. E. S. Robinson
Mrs. K. W. Sommerfeld
Mrs. Arnold Strache

THE CARBIDE COURIER

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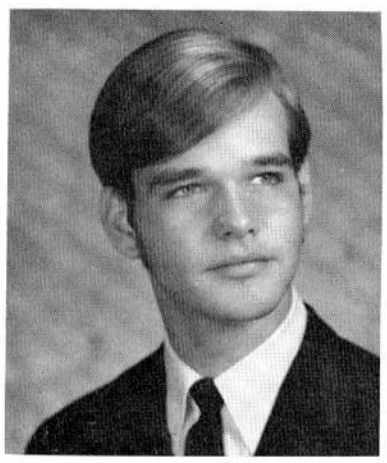
Lab Notes

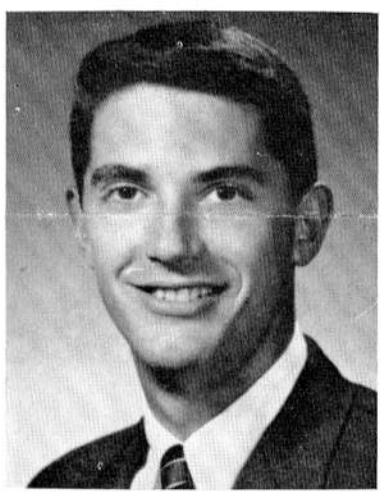


Steve Alley

Steve Alley, son of Eugene Alley, isotopic analysis department, has been awarded the valedictory honor of Roane County High School, with an average of 97.97, the highest in the school's long history.

Alley, who will enter Baylor University to study for the ministry, is a Merit Scholarship finalist.

Alley is a member of the high school band, is president of the Baptist Training Union Group, and is a member of the Beta Club, Science Club, Latin Club, and Math Club. He is active in the First Baptist Church in Kingston, and has filled the pulpit at the church numerous times.



Gary S. Napolitan

Gary S. Napolitan, son of D. S. Napolitan of the Laboratory Division, has received a doctor of jurisprudence degree from The Tennessee College of Law. He has passed the Tennessee State Bar Examination and is now associated with the Chattanooga firm of Bishop, Thomas, Leitner, Mann, and Milburn.

Napolitan received his B.S. degree from UT in June, 1967; he majored in economics and minored in political science. While doing his undergraduate work, he was elected to a membership in Phi Beta Kappa and Phi Kappa Phi, honorary fraternities; and Phi Gamma Delta, social fraternity.

* * *

J. W. Arendt attended the May meeting of the American National Standards Institute N18 Committee in New York City. Mr. Arendt is the INMM representative on this committee.

* * *

J. T. Mottern of the Chemical Analysis Department attended the organizational meeting of a new group, "Scientists and Engineers for Appalachia," at Berea College, Berea, Ky. About 300 attended the meeting. The primary objective of the Association is to provide a medium whereby science and technology may be utilized toward the enrichment of life in Appalachia. John A. Auxier of ORNL was elected president of the group.

We are happy to welcome James W. Myers to the Separation Systems Division. Myers transferred from X-10. He resides in Concord with his wife and four sons.

* * *

Deepest sympathy is extended to the families of Morgan Thomas, whose mother died last week, and to Olin Howard on the death of his wife's mother.

* * *

Willie May's friends and fellow workers at K-25 are missing him and wish him a speedy recovery. He suffered a compound fracture of his right leg in an accident last week.

Samuel J. Acres, Jr.

Samuel J. Acres, Jr., son of Jo Acres of the Laboratory Division and Samuel J. Acres, Sr., formerly of ORNL Metals and Ceramics Division, recently was graduated from The Univresity of Tennessee with a bachelor of science degree in mathematics and chemistry. He has been employed by Galbraith Microanalytical Laboratories, Inc., Knoxville, as Laboratory Manager.

Acres is involved in both the administrative operation of the laboratory as well as the maintenance of analytical standards and improvements in analytical methods.

Crass Gets Medal For Vietnam Action

Roy E. Crass

Roy E. Crass, who has been employed in the janitors department of Fabrication and Maintenance Division since October, 1969, has been awarded the Bronze Star Medal. The citation reads: "For meritorious achievement in ground operations against hostile forces in the Republic of Vietnam during the period of March, 1967, to March, 1968."

Crass said that the award came as a complete surprise. He is a native of Roane County and was graduated from Kingston High School. He is married to the former Paulette Thompson from Middle Tennessee, and they have a three-year-old son, Ronald Stephan. The family lives on Route 2, Kingston.

COMPLETE HELPER TRAINING PROGRAM—Now first class mechanics. Holding achievement awards, from left, are G. R. Walters and R. S. Knaff, carpenters; and E. L. Garland, maintenance mechanic; L. A. Studinger, center, made the presentations witnessed by V. B. Goddard, left, superintendent of Buildings and Grounds and J. R. Quarles, right, Buildings and Grounds and member of the Training Advisory Group.

10 Commandments Of Safe Shooting

1. TREAT EVERY GUN WITH THE RESPECT DUE A LOADED GUN.
2. WATCH THAT MUZZLE! Carry your gun safely; keep safety on until ready to shoot.
3. UNLOAD GUNS WHEN NOT IN USE. Take down or have actions open; guns should be carried in cases to shooting area.
4. BE SURE BARREL IS CLEAR OF OBSTRUCTIONS, and that you have ammunition only of the proper size for the gun you carry.
5. BE SURE OF TARGET BEFORE YOU PULL TRIGGER; know identifying features of the game you hunt.
6. NEVER POINT A GUN AT ANYTHING YOU DO NOT WANT TO SHOOT; avoid all horseplay.
7. NEVER CLIMB A TREE OR FENCE OR JUMP A DITCH WITH A LOADED GUN; never pull a gun toward you by the muzzle.
8. NEVER SHOOT A BULLET AT A FLAT, HARD SURFACE OR WATER: at target practice be sure your backstop is adequate.
9. STORE GUNS AND AMMUNITION SEPARATELY, beyond reach of children.
10. AVOID ALCOHOLIC BEVERAGES before or during shooting.

KEEP SHOOTING A SAFE SPORT!

Want to join car pool from California Avenue and Delaware Avenue area to K-1007, 7:45-4:15. E. J. Breeding, plant phone, 3-3206; home 483-1963.

EXCESSIVE SPEED

Excessive speed was the major factor in 1969's tragic highway record, according to an annual survey which was completed very recently. More than 56,000 persons were killed last year, and more than 4,700,000 injured.

BEST WISHES—Norman V. Shamblin, seated in center, was guest recently as the Engineering Division gathered at a 'cake break' prior to his marriage May 26.

by F. Dodge

Norman V. Shamblin, a recent transfer from Y-12 to the Electrical Engineering Department, was given a "Cake Break" and gift certificate by his ORGDP friends to celebrate his coming marriage. Mr. F. S. Patton, Head of the Engineering Division presented the gift certificate and usual masculine advice.

"Norm" as his friends all call him was married to Dorothy Payne of Alcoa on May 26th and honeymooned over the holidays.

We are sorry that all of Norm's well wishers could not appear in the picture. A "Cake Break" is a transient affair, well wishers flit by on their way from mission-to-mission, have cake, offer congratulations, advice and dash off.

MOST OUTSTANDING SENIOR GIRL. Wanda Lassiter, daughter of G. E. Lassiter of the Laboratory Materials Department, won this honor recently at the 4-H Achievement Night, held in Kingston. Wanda has been a member of the 4-H Club since she was in the fifth grade. A senior at Oliver Springs High School, she is president of the Senior 4-H Club there. Looking on are Junior Watts and Penny French, winners of the Outstanding Junior 4-H medals. Young Watts is the son of J. E. Watts, Cascade Maintenance.

Executive Health

By T. A. LINCOLN, M.D.

The popular "image" of the top executive is an aggressive, hard-working man who has a fine salary and much power but who pays an appreciable health price for his success. He is harrassed and works unremittingly under pressure and is therefore prone to develop a peptic ulcer or have a heart attack.

In the feature articles which appear in magazines and newspapers, the senior executive is pictured as getting up early and working late. He travels at least 100,000 miles a year, sometimes two or three times that much, and sees little of his family. He is tense and often irritable and demanding with his own close staff, but is the master charmer and politician with visitors, dignitaries and potential customers.

Dr. Lincoln

The epidemiological evidence, however, strongly suggests that executives do **not** have more coronary heart disease than employees at lower levels. Dr. Lawrence Hinkle and associates at Cornell University Medical College and members of the American Telephone & Telegraph Company Medical Department, studied 270,000 men employed in the Bell system. They followed disease experiences during a five-year period and found that the group of men who attained the highest levels of management did not have a higher risk of coronary heart disease than men at lower levels. They could not find any evidence that men who had been "promoted rapidly, frequently or recently" had any more heart attacks.

No Appreciable Change

They found that men who had a college degree when they started work with AT&T had a "lower attack rate, death rate, and disability rate for coronary heart disease at every age, in every part of the country, and in all departments of the organization." They believed that the difference in risk was present at the time of employment and was not changed appreciably by their job experiences.

A number of other studies have also found that executives, managers and professional men are no more prone to develop coronary heart disease than other groups of employed persons. A large study at duPont found that blood pressures, body weights, serum cholesterols and smoking habits were not significantly different among top level and lower level executives and even among nonexecutives.

The story of peptic ulcer is similar. It is the foreman and the first-line supervisor who develop peptic ulcers, not the higher level executive.

Strong Dependency Needs

Psychologists describe the typical peptic ulcer patient as a person with strong dependency needs. He needs an above average amount of recognition, security or love. He may strive to gain this security by being conscientious and hard-working. Peptic ulcer patients therefore often make outstanding employees and for this reason are promoted to supervisor responsibilities. Too often, however, they cannot meet their needs in their work. The ulcer patient is also thought to be basically uncomfortable with his aggressive impulses. The successful executive is not uncomfortable with aggression—he thrives on it!

The high level executive is charged with responsibilities for policy decisions which may involve huge sums of money and thousands of jobs, yet he seldom personally has to implement his decisions. He has ways of avoiding many of the unpleasant interpersonal conflicts which the first-line supervisor has to deal with on an almost daily basis. The executive has responsibility with power, while the foreman has responsibility without power. The foreman usually comes from a craft background and identifies with it; yet, he is a part of management who has never really been admitted to their inner circle.

In summary, the executive enjoys remarkably good health. He probably, especially now, comes from a more sheltered background. The days of the "self-made man" are passing. Most executives are college graduates, many of them with advanced degrees. A few may have grown up in poverty and gotten their education only because of their exceptional talent. More likely, however, they come from reasonably comfortable homes with good nutrition and above average health care. Because of their perceptiveness, they are more aware of their health needs. They respond better to the health tips given them during their executive physical examinations.

Although executive talent is not inherited, a galaxy of other talents, perhaps including good health, are inherited, so the executive may have great inborn advantages. Coming from the right home environment is probably the most important gift he got. At any rate, the combination of talents, attitudes, and health that make a successful executive seem not to be the ones which lead to coronary heart disease or peptic ulcer.

So don't feel sorry for the executive, at least as far as health goes. It is the "working" man or first-line supervisor who has more health problems—not his boss.

Metal Anode Group Formed by Carbide

The formation of a joint venture for the production and marketing of active metal anodes for the electrolysis of brine was announced recently by Birny Mason, Jr., chairman of the board of Union Carbide Corporation, and Charles W. Engelhard, chairman of the board of Engelhard Minerals & Chemicals Corporation.

The new organization, to be known as Metal Anode Associates, will be headquartered at 270 Park Avenue, New York. Metal Anode Associates combines Engelhard's years of experience producing and processing precious metals with those of Union Carbide in anode design and electrolytic operations. Engelhard will supply the production facilities and the Carbon Products Division of Union Carbide will serve as the marketing and technical service arm.

The line of dimensionally stable anodes available from Metal Anode Associates will be comprised essentially of a corrosion-resistant titanium structure with an electrically conductive coating. These metal anodes are used in the electrolysis of brine in making such chemical products as chlorine, chlorates, hypochlorites, sodium hydroxide, and potassium hydroxide. Especially important in the production of chlorine, one of the chemical industry's major building blocks, they will provide new opportunities for cell voltage reduction, greater output, and more flexibility in cell design to operators of electrolytic cells for producing this chemical.

All-Carbide Pistol League Begins 12-Match League

The first match of the season was held in the All-Carbide .22 Calibre Pistol League on Tuesday, June 2. Subsequent matches are scheduled for each Tuesday until August 25. The first relay starts at 6 p.m. with three additional relays starting approximately 30 minutes apart. Twelve matches are scheduled plus one for any that may be rained out. Postfires and prefires are permitted. Competitors must furnish their own ammunition.

Further information may be obtained from Jim Brewer at K-25, phone 3-3206 or from Troy Burklow at Y-12, phone 3-7705.

POLYETHYLENE FILM

Polyethylene film is the biggest-selling transparent packaging material in the world today. The U.S. alone will consume almost 800 million pounds of it this year—more than enough to wrap Manhattan Island!

14-Team League Begins Softball Play At Pinewood Monday, Tuesday, Thursday

The 14-team Softball League, featuring competition between the two Nuclear Division plants, Y-12 and ORGDP, got underway Monday, May 18. Play began with the Gashouse Gang, K-25, galloping by the Bat Boys from Y-12 to the tune of 9 to 2.

Ron McElhaney clobbered a long homer for the winning squad.

The All Stars downed the NC Squad in game number two of the initial night, 7 to 3. The All Stars' Ken Self poled a four-bagger, and the loser's Dave Post put one out of the park.

Eagles Down Raiders

The Eagles, Y-12, downed the K-25 Raiders handily in the wrap-up game, 17 to 4. Jim Thompson and D. H. Johnson both knocked two homers, Bill Smith one to aid the winning cause. Bobby Jennings belted one for the Raiders.

The K-25 Colts clipped the Y-12 Braves in action May 19, 9 to 6. Sam Duncan hit the only homer of the game.

The Y-12 Rangers ran roughshod over the Beta 2 Miners 10 to 0 in the first whitewash of the new season.

The Y-12 Raiders felt the sting of the serpents tongue, falling 37 to 13 to the Snakes, also from Y-12.

3 Knock 2 Homers

Calvin Angel, Horace Moorman and Earl Nall all nailed two out of reach for four bags; Jerry Harris had one homer.

May 21 opened with the Buccaneers, Y-12, downing the Knockers 16 to 0. Pete Psiokios and Bill Lacefield earned trips home on one long one.

The Eagles put the Braves down 14 to 3, with Trig Myhre helping the winning cause with a homer.

Final game of week before last put the Colts way ahead of the Beta 2 Miners 30 to 5.

Wes Peters put two out in the weeds; Bob Seyfried, Jack Bornett and Butch Loy all hit a homer each.

Last week's action began as the Bat Boys clipped the Raiders 9 to 3. George Reece and Jack Cowan both cleared the fences with four-baggers.

Wes Hightower, Phil Brady and Wayne Langenberg all homered to assist the Gashouse Gang in overwhelming the NC Squad 16 to 4.

The All Stars kept their clean slate by downing the Buccaneers 12 to 4 in Monday's final game. Iver Jeter and Whitney Tipton took four-baggers.

Tuesday's action began at a fast pace as the Devils from K-25 came on strong to knock the Knockers 18 to 9.

Leroy Thomas poled two long homers for the victors.

Snakes Strike Rangers

The Snakes slid by the Rangers 5 to 3 Tuesday . . . outhitting them by two hits. The big difference, however, was in errors made . . . four by the Rangers, none by the Snakes.

The Beta 2 Miners belted the Raiders 23 to 10 . . . as Basil Jeffrey and Steve McFarland homered for the winners. Mike Gregg homered twice for the losers and Charlie Anderson poled one.

Final action last week saw the Eagles soar high over the Buccaneers 19 to 4. Hugh Richards knocked a long one for the victors . . . Randy Collins and Dick Nixdorf poled long ones for the losers.

NC Squad Wins

The NC Squad took on the Knockers 14 to 7 Wednesday, as Dave Post, Bob Birdwhistle and Ron Marcum all marked four-baggers on the score. On the losing team it was Charlie Wilkie.

The All Stars won the last game of last week barely edging out the Bat Boys 14 to 10.

Jack Cowan unlimbered for two homers for the winners. On the losing side it was Dick Graham with one.

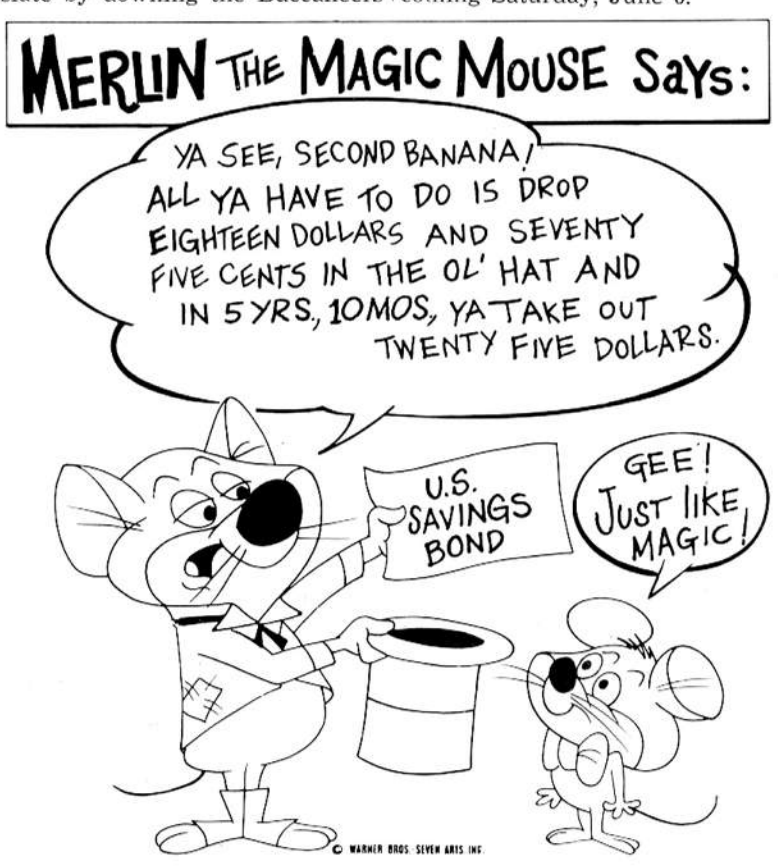
League standings follow:

Team	W	L
All Stars	3	0
Eagles	3	0
K-25 Gashouse Gang	2	0
K-25 Colts	2	0
Snakes	2	0
K-25 Devils	1	1
Rangers	1	1
Bat Boys	1	2
NC Squad	1	2
Beta 2 Miners	1	2
Buccaneers	1	2
9103 Braves	0	2
Knockers	0	3
Raiders	0	3

Reimann Fires High 477 For 1st Hi Power Shots

ORNL's George Reimann fired a 477 to take first place in the first match of the new high power rifle season. Jack Huff, Y-12, fired second and Dick Sears, also of Y-12 was third . . . with scores of 453 and 441 respectively.

The next match is set for this coming Saturday, June 6.



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LONG-TIME DONORS—Shown here are two long-time supporters of Oak Ridge volunteer blood programs. Both have given blood over the years to support an earlier and more limited Red Cross service. Shown are, from left, George R. Jamison, a three-gallon donor, and R. P. Wallace, a two-gallon donor. Jamison works at ORGDP, and Wallace at Y-12.

Toll Enrichment

(Continued from Page 1)

tion, $9.5 million; General Electric Company, two contracts, $20.8 million and $3.6 million; Westinghouse Electric Corporation, $24.2 million; Commonwealth Edison Company, two contracts, $104.9 million and $110.2 million; Philadelphia Electric Company, $187 million; Babcock & Wilcox Company, $5.3 million; Sacramento (California) Municipal Utilities District, $89.3 mllion; Northern States Power Company, $59.8 million; and Boston Edison Company, $52 million.

Revenue To Grow

The toll enriching agreements with customers abroad include 15 with the European Atomic Energy Community totaling $89 million; six in Japan, totaling $295.1 million; two in Switzerland, $38.4 million; and one in Sweden, $42.2 million.

During calendar 1969, the AEC received $60.8 million in revenue under the Toll Enrichment Program. Annual toll enrichment revenue will increase to approximately $95 million this year; $190 million in 1972; and an estimated $850 million in 1980, based on current contracts and anticipated agreements.

Uranium enriching services are performed at the AEC's three gaseous diffusion plants at Oak Ridge, Tenn., Paducah, Ky., and Portsmouth, Ohio.

Recording for Blind Need Readers, Monitors Here

Summer months are busy at Recording for the Blind. June, July and August are the months when large numbers of textbooks must be read for the Fall semester. Yet those are the months when many regular volunteers must stay home with their young children or take family vacations.

Oak Ridge is fortunate in having many summer participants and visiting wives who would be qualified to read or monitor these needed books. Arrangements may be made to instruct the monitoring technique if volunteers are rusty. There are specialized books to read in the sciences, psychology, sociology, as well as general books in literature, and history, etc.

If you would like to volunteer your free time to Recording for the Blind, call the studio in Cheyenne Hall, Oak Ridge telephone 483-6977. Mrs. W. W. Grigorieff is studio director.

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NUCLEAR DIVISION
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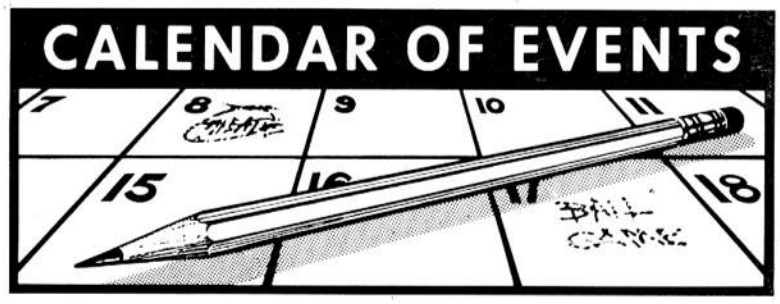


COMMUNITY

June 5, 6
12, 13
19, 20

"Don't Drink the Water," Woody Allen's bright comedy of a tourist with a camera behind the Iron Curtain. 8:20 p.m. Oak Ridge Playhouse. Final production of the season.

June 14

Smoky Mountain Hiking Club. Kephart Prong, rock-hopping to N.C.-Tenn. State line. Long day's hike, about 14 miles. Jean Bangham, Oak Ridge leader, 483-9862.

LEARN TO SWIM

For the past three years there has been an increase in the number of persons who have drowned, according to the American Red Cross. More than 7,200 drownings were reported last year.

About six out of every ten persons who drown in the United States do so because they are in the water involuntarily — they have fallen in by accident. Had they been able to swim, most of them could have saved themselves. The cardinal rule for water safety is to learn to swim. And if you can swim, then learn to swim better.

TECHNICAL

June 4

Solid State Division Seminar: "Magneto-Thermal Properties of a Multi-Axis Ising Antiferromagnet," David Landau, University of Georgia. Conference Room, Building 3025, ORNL, 10 a.m.

June 5

Physics Division Seminar: "Space Anatomy — Results and New Problems," Nancy Grace Roman, Chief of Astronomy Programs, Office of Space Sciences, NASA, Washington, D. C. East Auditorium, Building 4500-N, ORNL, 3:15 p.m.

June 8

UT-AEC Agricultural Research Laboratory Seminar: "Medical Problems of Space Flights," Dr. Philip C. Johnson, Professor of Medicine at Baylor College of Medicine, Director of the Radioisotope Laboratory at the Methodist Hospital in Houston, Texas, and is Nuclear Medicine Consultant to NASA, Manned Spacecraft Center. Conference Room, UT-AEC Agricultural Research Laboratory, 3 p.m.

June 10

Metals and Ceramics Division Seminar: "Fracture Studies," D. G. Harman. East Auditorium, Building 4500-N, ORNL, 2:45 p.m.

Allen Comedy Set To Open Friday

"Don't Drink the Water," Woody Allen's successful comedy, will be presented at the Oak Ridge Playhouse in Jackson Square on June 5, 6, 12, 13, 19, and 20 at 8:20 p.m. The box office is open from 10 a.m. through 5:30 p.m. Wednesdays through Saturdays during the run of the play. Reservations may be made by calling 483-1224. Student rates are available for all Friday performances.

The ordinary frustrations of the America tourist abroad are compounded in this comedy by placing the visitors in a Communist country and getting them shut up in the local embassy to escape the local police. Milton Carey portrays Walter Hollander, a New Jersey caterer who is particularly upset because he is stuck in Europe during his busiest season back home and he is positive his partner is going to destroy the business. Glenn Bridges will be seen as a not very helpful aide to the ambassador.

Season tickets for the 1970-71 season will be available at the Box Office throughout the month of June. Information concerning any phase of the Playhouse or ticket reservations may be made by calling 483-1224.

LIBRARY LISTINGS

Oak Ridge Gaseous Diffusion Plant

The Art of Motivating; a Guide to Getting More Accomplished Better Through Others. J. Morris.

Fault Diagnosis of Digital Systems. H. Y. Chang.

Management Information Systems Handbook; Analysis-Requirements Determination-Design and Development-Implementation and Evaluation. W. Hartman.

Information Storage and Retrieval for Individual Researchers. G. Jahoda.

Design Criteria for Turbomachinery Periodic Structures to Improve Tolerance to Inflow Distortion and Resonant Oscillatory Flows. J. S. Alford.

Modern Methods for the Separation of Rarer Metal Ions. J. Korkisch.

Basic Radiation Protection; Principles and Organization. C. W. Easley.

Analysis Instrumentation, Vol. 7; Proceedings of the 15th Annual Symposium. Instrument Society of America.

A Tracer Study of Prescaling Deposition of Scale Forming Compounds on Controlled Surfaces. H. L. Recht.

Oak Ridge National Laboratory

Population and Food Supply, Essays on Human Needs and Agricultural Prospects. Sir Joseph B. Hutchinson. (Central, 4500).

Environment, The University, and the Welfare of Man. Billy R. Wilson, Ed. (Central, 4500).

High Resolution NMR, Theory and Chemical Applications. Edwin D. Backer. (Central, 4500).

The Hudson River, A Natural and Unnatural History. Robert H. Boyle. (Central, 4500).

Autoradiography of Diffusible Substances. Lloyd J. Roth and Walter E. Stumpf, Eds. (Biology, 9207, Y-12 Area).

Antimicrobial Agents and Chemotherapy, 1968; Proceedings of the 8th Interscience Conference on Autimicrobial Agents. Gladys L. Hobbs, Ed. (Biology, 9207, Y-12 Area).

Occupational and Environmental Cancers of the Urinary System. Wilhelm C. Hueper. (Biology, 9207, Y-12 Area).

Advances in Carbohydrate Chemistry and Biochemistry, Vol. 24, 1969. Melville L. Wolfrom and R. Stuart Tipson, Eds. (Biology, 9207, Y-12 Area).

Principles of Optics, Electromagnetic Theory of Propagation, Interference and Diffraction of Light. Max Born and Emil Wilf. (Technical, 9711-1, Y-12 Area).

Fission Damage in Crystals. Lewis T. Chadderton and Ian MCC Torrens. (Technical, 9711-1, Y-12 Area).

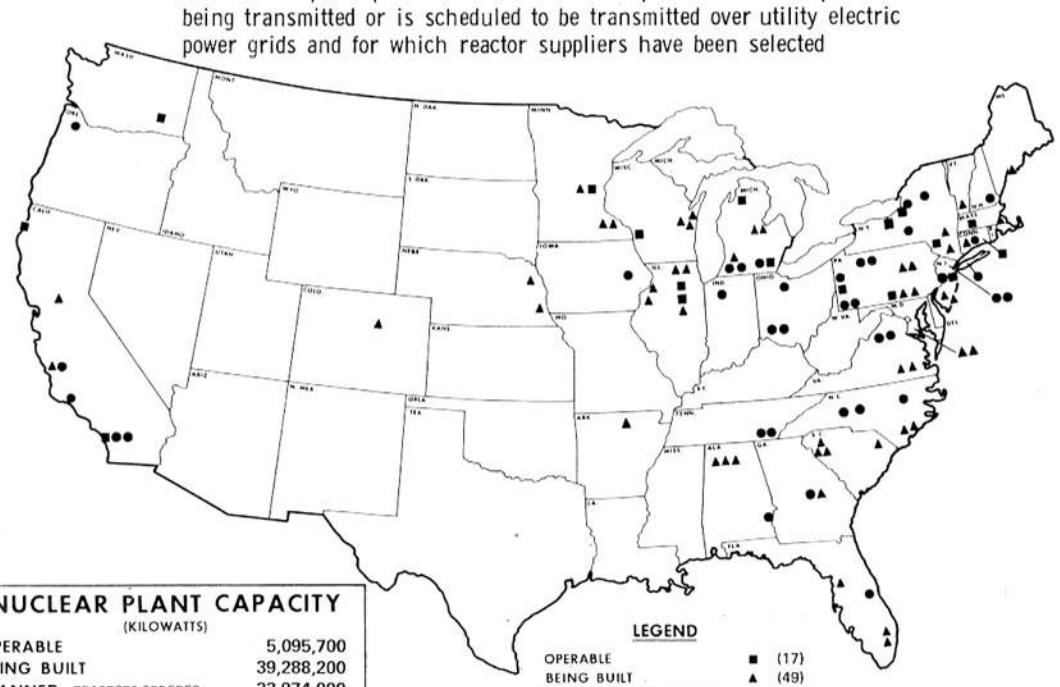
Chemistry and Technology of Fertilizers. V. Sauchelli and American Chemical Society. (Technical, 9711-1, Y-12 Area).

I. V. Kurchatov—A Socialist-Realist Biography of the Soviet Nuclear Scientist. Igor Nikolaevich Golovin. Translated from the Russian by William H. Dougherty. (Thermonuclear, 9201-2, Y-12 Area).

Plasma Waves in Space and in the Laboratory — Proceedings. (Thermonuclear, 9201-2, Y-12 Area).

NUCLEAR POWER PLANTS IN THE UNITED STATES

The nuclear power plants included in this map are ones whose power is being transmitted or is scheduled to be transmitted over utility electric power grids and for which reactor suppliers have been selected



NUCLEAR PLANT CAPACITY (KILOWATTS)		
OPERABLE		5,095,700
BEING BUILT		39,288,200
PLANNED	REACTORS ORDERED	33,974,000
	REACTORS NOT ORDERED	6,800,000
	TOTAL	85,157,900

ELECTRIC UTILITY CAPACITY BY CONVENTIONAL MEANS AS OF JAN. 31, 1970: 329,318,247 KILOWATTS

*7 more plants have been announced for which reactors have not yet been ordered.

U.S. Atomic Energy Commission
March 31, 1970