

NUCLEAR DIVISION NEWS



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

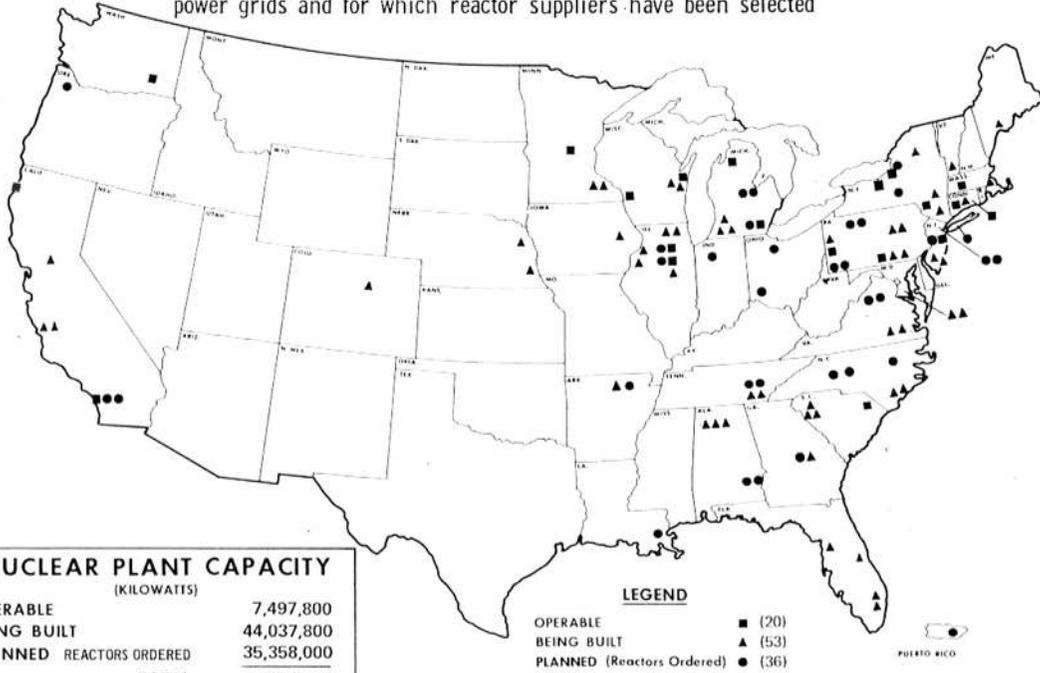
Vol. 2 — No. 5

OAK RIDGE, TENNESSEE

Thursday, March 11, 1971

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	7,497,800
BEING BUILT	44,037,800
PLANNED REACTORS ORDERED	35,358,000
TOTAL	86,893,600

TOTAL ELECTRIC UTILITY CAPACITY AS OF OCTOBER 30, 1970: 334,986,000 KILOWATTS

LEGEND
 OPERABLE (20) ■
 BEING BUILT (53) ▲
 PLANNED (Reactors Ordered) (36) ●

U.S. Atomic Energy Commission

POWER NEEDS GROW — The tremendous growth of the nuclear power industry in the United States is reflected in the recent map released by the U. S. Atomic Energy Commission.

Good Year Predicted

February Toll Enrichment Tops Previous High by Wide Margin

The Toll Enrichment Program at the Oak Ridge Gaseous Diffusion Plant has set another all-time monthly record in enriching services, this time more than doubling the previous record set only the month before.

During February, approximately 546,000 pounds of enriched uranium — at charges totaling more than \$28 million in enriching fees — were shipped to customers throughout the United States and four other countries for use in nuclear reactors for the generation of electricity. The previous monthly high was set in January, 1971, when toll enrichment charges totaled \$13,612,534.

States served during the month were Alabama, Florida, Minnesota, New York, Pennsylvania, Virginia, and Wisconsin. Foreign customers were Japan, The Netherlands, Switzerland, and West Germany. Overall, some \$8 million was charged to foreign customers and about \$20 million to domestic customers.

"January and February have both been exceptionally good months," reports Joe Dykstra, who is in charge of the ORGDP program, "and we expect the 1971 total to top those of both 1969 and 1970." The Toll Enrichment facility was in operation seven days a week throughout February,

preparing 164 2.5-ton cylinders for shipment.

Now in its third year, the Toll Enrichment Program has grown tremendously. In 1970, some 2.2 million pounds of uranium was enriched and shipped to nuclear customers for fees totaling \$86 million, as compared with 1.4 million pounds and \$46 million in 1969.

Toll Enrichment was instituted on January 1, 1969. Under this program, privately-licensed owners bring their uranium to a gaseous diffusion plant for enriching on a toll basis. Customers are charged for the services required to separate from natural uranium the desired percentage of uranium-235 isotope, usually between two and three percent.

An older program through which customers could lease government-owned uranium was phased out by December 31, 1970, but a few customers are receiving uranium contracted for before the program's termination. In February, the Senn, Italy, reactor leased government-owned uranium enriched for a fee of \$416,000.

Cooperating with ORGDP in the enrichment process are other gaseous diffusion plants at Paducah, Ky., and Portsmouth, Ohio.

20-Year Veteran

Denton Named Superintendent Of Staff Financing and Budget

James K. Denton has been appointed superintendent of finance and budget reporting to the manager of accounting for the Nuclear Division, Union Carbide Corporation.

Denton, who has been with Union Carbide for almost 20 years, has served as superintendent of finance and budget at Carbide's Oak Ridge Y-12 Plant for the last two years.

A native of Sweetwater, Tenn., Denton was graduated from Tennessee Wesleyan College. He also attended Hiwassee College and has done graduate work at The University of Tennessee, East Tennessee State University, and LaSalle Extension University.

Active in community programs, Denton is a member of the Monroe County Primary Board. He also is a member of the International Order of Oddfellows and the Masonic Order.

Denton and his wife, the former Josephine Howard, also of Sweet-



James K. Denton

water, live at 805 Morris St., Sweetwater. They have three daughters: Deborah, Donna and Denise.

UCC's Final Earnings Figures Show Decline

Final figures released recently by Union Carbide Corporation showed 1970 sales at a record high of \$3,026,326,000 and net income of \$157,312,000, or \$2.60 a share. As indicated in a preliminary report in January, sales were three percent higher than the 1969 total of \$2,933,015,000. The preliminary report showed earnings of \$159,400,000, or \$2.64 a share. The final figure reported is slightly less, primarily as a result of adjustments made in consolidating accounts on a worldwide basis.

Final 1970 earnings were 16 percent below the \$186,220,000, or \$3.08 a share, reported in 1969. As was noted previously, the 1969 earnings figure included a non-recurring capital gain equivalent to nine cents a share resulting from the sale of a subsidiary. If this is excluded, the earnings decline in 1970 amounts to 13 percent.

In the preliminary report, it was indicated that the corporation's domestic selling price index rose three percent over 1969. Final data now show that this index increased from 76 in 1969 to 77 in 1970, a gain of about one percent.

Moon Landing Films Set At SNT Meet Saturday

The Oak Ridge section of the American Society for Nondestructive Testing will hold its annual Ladies' Nite affair Saturday, March 13, at the Oak Ridge Country Club.

The event begins with a social hour at 6:30 and dinner to be served about 7:30 p.m.

The program will consist of actual film made during the Apollo moon landing mission last month. Guests are all invited to attend the regular Country Club dance following the meeting.



'FOOTPRINTS' ON THE MOON—Two pieces of equipment developed by Union Carbide's Nuclear Division for the National Aeronautics and Space Administration's Manned Space Center at Houston are shown in this lunar scene from Apollo 12. At lower left is the 15-bag dispenser, developed in a joint effort by the Oak Ridge Y-12 Plant and Oak Ridge National Laboratory. Above, near the astronaut's right foot, is the 35-bag dispenser designed and built at ORNL. Both containers house bags used to hold documented moon rock samples for return to earth. The core tube being used by the astronaut was fabricated elsewhere, but was cleaned at Y-12 before being packed within the rock box for the trip to the moon. Nuclear Division scientists and engineers are continuing to assist in the Apollo program, with the next moon shot scheduled for this summer.

Largest Toll Enrichment Contract Signed by AEC

The Atomic Energy Commission has signed three additional agreements under its toll enrichment program for providing approximately \$633,673,212 in uranium enrichment services to the nuclear power industry.

S. R. Sapirie, manager of the AEC's Oak Ridge Operations, who signed the contract for the AEC, said that one with the Westinghouse Electric Corporation of Pittsburgh, Penn., is the largest

the AEC has entered into since toll enrichment began in January, 1969.

Sapirie said that under the Westinghouse contract the AEC would be furnishing the company with approximately \$301,467,072 in uranium enriching services over the next ten years. The total is based on a charge of \$32 per unit of separative work, which is expected to go into effect later this year.

(Continued on Page 6)

AFS Scholars . . . One Returns, One Leaves

By JAMES A. YOUNG

The American Field Service has returned a Nuclear Division scholar to her family, and sent another one on his way! Jody Blake, daughter of Charles A. Blake, Equal Employment Opportunities Coordinator, has returned from a year's study in New Zealand. And while Jody unpacks, Dale Strasser, son of George A. Strasser, Y-12's Technical Division Superintendent, is busily adjusting to life in South America.

Funds which bring scholars from abroad to this area, and send local students to other countries are raised by members of the AFS Club at the high school during an annual key sale. The selection of local candidates and the selection of homes in Oak Ridge for visiting students are made by the AFS Committee of Oak Ridge. The program is one of the activities of the United Nations Committee.

Learns About U.S.A.
To Jody Blake's amazement, she learned more about her own country while in New Zealand than about another country. She was an overnight guest in at least 25 different homes in New Zealand where the people wanted to know about America.

"They first want to know about the race problem, then student dissent and drug abuse. I found they sometimes did not understand that America is making great efforts, particularly in the field of race relations," she explained.

Jody attended the Marsden School for Girls, a private school sponsored by the Anglican Church. She lived with the family of Peter Gibbons, who is a director of one of the Ford Motor companies in Wellington. There are six Gibbons children, two boys and four girls. At school she wore the traditional green outfit, with round straw hat and brown gloves.

Spectacular Beauty
The vast, spectacular beauty of the country made a lasting impression on the young Oak Ridge scholar. "Beautiful, unspoiled areas," is the way she described the back country of the 'down-under' land.

"Of course, I'm no expert on New Zealand life," she quickly adds, "having lived there only a year—but I did have a chance to realize the many-sided values of the AFS program. It turned out to be different—but even better than the idealized view I had before I went. AFS selects you and trusts you. The pressure I felt was a challenge that came from my own feeling of wanting to do my best for everything I represented as an American—for myself. It just became a way of living—and well worth living too."

"The AFS benefit all boils down to person-to-person experiences."



Jody Blake

she went on. "People getting to know each other and every time feeling that people all over the world are really the same in their hopes for themselves and their families."

Jody came back from her year's study "loving America even more—and maybe understanding her problems a little more. You get a chance to see it more in perspective—the other AFS students feel that way too," she added.

The Blakes live at 100 Parker Road, Oak Ridge. There is a younger sister at home, Wendy; and Chuck, the older brother, attends Tennessee Wesleyan College, at Athens.

Jody has a beautiful silver teapot, a gift from her New Zealand "parents," but hastily explains that she needs no material thing to bring beautiful memories of a year where she was more than just a guest.

A Universal Language
And while Jody adjusts to the routine of another school year at Oak Ridge, Dale Strasser is doing a lot of smiling these days.

Dale recently wrote his younger sister Nell that because of language problems he was smiling a lot these days. "When they say something I don't understand, which is often, I just smile."

Dale is learning the language of Brazil which is Brazilian Portuguese, with its own idioms and peculiarities.

Fortunately, he landed in the South American country during the summer vacation and had a month remaining before school opened for the fall. (Remember, seasons are reversed below the Equator.) Climate will pose no problem, however, for the young Oak Ridger. Temperatures range between 55 and 95 degrees the year 'round, corresponding with our spring and fall weather here.

Young Strasser will reside with the Walter Mirandas, and their three children, Sergia, Dale's foreign brother; Regina, 15, who is in the second year of high school; and Vera, 17, who is awaiting an AFS placement herself. Mr. Mirandas is a director of two colleges and a commercial school. Mrs. Mirandas, a teacher, works in grades one through four.

Also Visited Germany
Dale was particularly excited about going to another country, as more than just a tourist. He was one of a small group of local students who went to Germany for a six-week's tour back in the summer of 1969.

Strasser's main interest in school is political science and he hopes to learn more about the Brazilian government from the grass roots level, while in that country.



Dale Strasser

He will be living in Andradina, a city of about 60,000 people located about 400 miles inland from Sao Paulo. He left New York on February 2, joining other AFS students for the flight to Rio. After a seven-day orientation period, he arrived at his new "home."

Dale was active both in school functions and extracurricular interests at high school. He is a member of the German Club and a Student Council representative where he was on the program and curriculum committee and head of a sub-committee concerning grades—its main purpose being to devise methods to improve the grading system.

Away from school, Dale stays busy. He is very active in the youth group at the First Baptist Church where he is a member.

Has Many Interests
Last fall, Dale organized "Youth for Gore" in this area, and was very active in the veteran senator's campaign. He is also interested in water sports, tennis and football. (The Miranda family also enjoys water skiing!)

Dale attends the Instituto de Androdina, a public school with about 2,800 students. The school has 12 grades, however, and averages about 40 students per class.

The Strassers, who live at 106 Walton Lane, Oak Ridge, have two married children, Karin Schneider, a teacher at Elm Grove School, and Kurt, in his second year at law at Vanderbilt University. Nell, the remaining child at home, is in the eighth grade at Robertsville Junior High School.

The student-to-student program costs about \$950 per head a year. Proponents of the program think it well worth the money; and the students involved, those coming, and those going, all agree.

Scanning Electron Microscope May Aid Research in Eye Disease Studies

Strange as it may sound, man could 'see' a close-up of the moon's surface, but was unable to 'see' the surface of the human eye. Now, however, new light on the human eye, specifically the cells forming the outer surface of the cornea, is coming from an instrument of the atomic age—the scanning electron microscope.

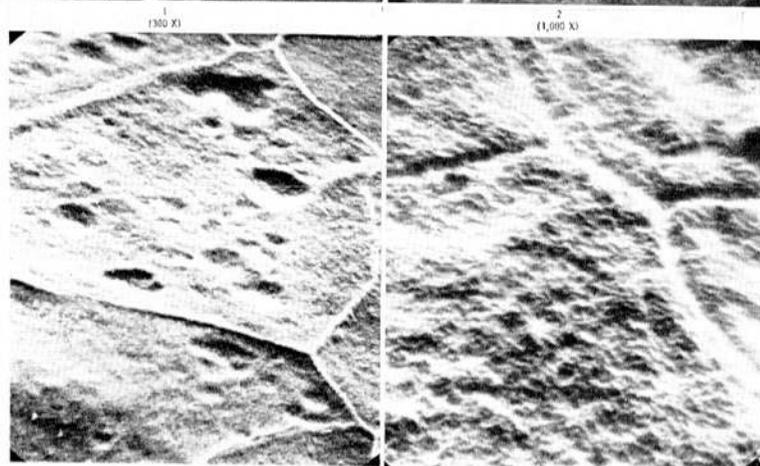
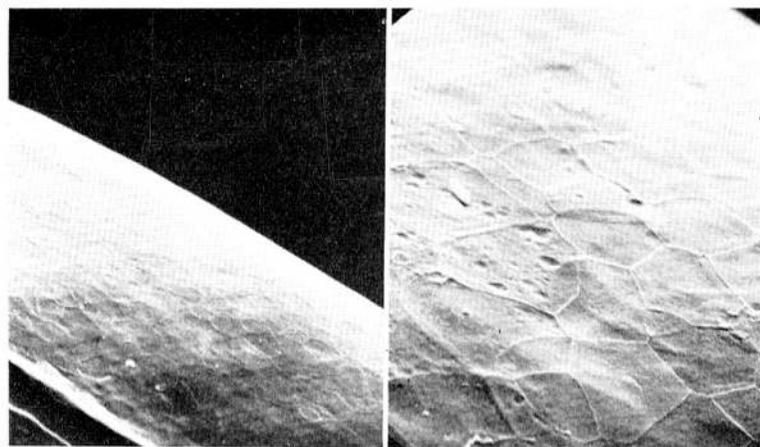
Before the development of the scanning electron microscope (which, unlike a conventional microscope, is able to scan an entire object; magnify its image 30,000 times, and record what it scans), details of the structure of the cornea were worked out in a painstaking process. The early process involved examining tiny sections of the eye's surface and

then putting the pieces together in a jigsaw-puzzle fashion.

Now, through the first photograph of the whole cornea, recorded with a scanning electron microscope, researchers at the Atomic Energy Commission's Lawrence Radiation Laboratory, Berkeley, Calif., are able to 'see' the big picture of the eye's surface.

In the unique photographs, which look remarkably like photos of a lunar approach, the outermost cells of the cornea appear as the craters and ridges of a moon scene.

In time, the new view of the circuitry of the eye's biology may assist researchers in their study and diagnosis of diseases of the eye.



NO MOON SHOT—These photographs show the outermost layer of the human cornea at increasingly greater magnifications through the use of the scanning electron microscope. In these pictures, it is possible to see nerve 'circuitry' of a biological system which has provided new understanding of the eye structure. In time the new instrument may be useful in the diagnosis of diseases of the eye.

Nuclear Power Plant Orders Double in USA

Orders placed for nuclear power plants by United States utilities during 1970 essentially doubled the orders placed in 1969.

The utilities ordered 14 power reactors, 13 of which were announced during the year and one for a plant previously announced. When the 14 plants are operational, they will produce 14,336,000 kilowatts of electrical power.

In 1969, utilities ordered seven reactors with a total capacity of 7,255,000.

The status of all nuclear power plants, as of December 31, 1970:

	Kilowatts
20 Operable	7,497,800
53 Being built	44,037,800
36 Planned (reactors ordered)	35,358,000
109	86,893,600

Nuclear power plants are fueled with uranium 235 which is produced at the Atomic Energy Commission gaseous diffusion plants in Oak Ridge; Paducah, Ky.; and Portsmouth, Ohio.

NEWS

Published Bi-Weekly For The Employees Of UNION CARBIDE CORPORATION NUCLEAR DIVISION

JAMES A. YOUNG Editor



Member Appalachian Industrial Editor's Association

International Association of Business Communicators

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AEC Patents Total 4,302; Developments Many, Varied

Are you interested in using #3,488,159 "Jet-Pulsed Liquid-Liquid Extraction Column?" Perhaps you prefer #3,488,409, a "Process for Consolidating Nuclear Fuel Particles," or maybe #3,501,634 — "Whole-Body Radiation Counter" strikes your fancy? If you are interested, these items, along with 4,000 others, are listed as patents available to the public from the U. S. Atomic Energy Commission.

Not interested? Too technical? Such atomic age items aren't important to you, you say? Well, perhaps some other items the AEC has available are more to your liking. How about these? #3,492,238, a product which removes rust without damaging metal; or #3,367,223, wire cutters that cut clean; or #3,371,558, a high-speed drill that virtually eliminates drill wobble.

A 'Heart Assist'

If you're a smoker, it might interest you that AEC patent #3,358,694 is a process for reducing the irritants in tobacco. And, if your interest is medicine, you might appreciate the value of #3,541,218 — a heart assist device.

Or how about a Non-Contact Spark-Gap Current Tool-Setting Device, patent number 3,524,130, issued in August of last year, showing Charles Asmanes, Y-12's Fabrication Division Engineering, as the inventor? The development is described as a non-contact tool-setting device which has been provided for use on lathes or the like. The position of the tool relative to the workpiece is determined by measuring the current through an arc established between the tool and a reference electrode. The reference electrode

is in the form of a precisely formed spherical ball seated on a special mount thereby providing certain advantages which facilitate highly accurate positioning of the tool relative to the workpiece.

A weekend gold miner might marvel at #3,545,964, which is a new way to leach gold from rocks, while an outdoor enthusiast might enjoy a gadget which measures the depth of snow with a radiation source and a radiation counter. It's #3,432,656.

4,302 Patent Rights

Why the AEC has these patents is not quite as intriguing as the patents themselves. In fact, it's quite simple! The Commission conducts its research, development and production mostly through contracts with private industry. Under the provisions of such contracts the Government acquires the rights to inventions and discoveries made in the course of the project work. While the majority of the inventions relate to atomic energy, many are of interest outside of the nuclear industry, including welding tools, special metal alloys, electronic circuits, nondestructive testing equipment, precision machining and gaging. Some of the patents relate to uses of radioisotopes in commercial and health fields such as medicine, industrial gaging, and irradiation of materials.

On December 1, 1970, the AEC held 4,302 patent rights. Companies or individuals who are interested in patent licenses can write to the Assistant General Counsel for Patents, AEC. The Commission has the authority to grant nonexclusion, royalty-free, revocable licenses to such applicants.



Additional Y-12ers mark important dates with Union Carbide Corporation in March. Congratulations.

25 YEARS

Orion C. Lee, Area Five Maintenance, March 1.

Wilburn W. Combs, Statistical Services, March 12.

John E. Harding, Maintenance Division, March 14.

Lacy D. Keele, Production Analysis, March 18.

20 YEARS

Charles E. Spradlin, Sr., General Field Shops, March 1.

Harry T. Tiller, Laundry, March 2.

Leslie R. Powers, Jr., Long Range Planning, March 2.

Joseph A. Braden, Utilities Administration, March 3.

Mack S. Baker, 9766 Machine Shop, March 5.

Walter J. Marble, Building Services, March 5.

Walter R. Barwick, Machine Maintenance, March 5.

Sidney M. Liles, Material Transfer and Packing, March 6.

Charlyne S. Smith, Medical Department, March 9.

Doyle E. Watson, Alpha Five Processing, March 9.

James F. Winfree, H-1 Foundry, March 12.

Woodrow T. Rumph, Jr., G-3 Processing, March 12.

Herman R. Butler, Jr., Chemical Services, March 12.

Dwight E. Hatch, Long Range Planning, March 12.

Virginia B. Newby, Dispatching Department, March 12.

Wilburn Burum, Building Services, March 13.

Robert E. Schabot, Utilities Administration, March 13.

Grady L. Nichols, General Can Fabrication Shop, March 13.

Hence Mitchell, Stores Department, March 14.

Thomas W. Johnson, Area Five Maintenance, March 14.

Albion C. Spence, Research Services, March 15.

William H. Mochl, Production Radiation Testing, March 15.

Alvin C. Wood, Buildings, Grounds and Maintenance Shops, March 15.

15 YEARS

John H. Ramsey, M-Wing Shop, March 5.

William J. Muerth, Beta 4 Forming, March 11.

Harold W. Jernigan, Process Maintenance, March 12.

William T. Carey, 9215 Rolling Department, March 15.

10 YEARS

Jack Blackerby, Numerical Control Engineering, March 3.

Carolyn S. Schilling, Engineering Test Systems, March 16.

Ragland Named Superintendent Of Y-12's Accounting and Budget

William R. Ragland has been named superintendent of the Accounting and Budget Division at the Oak Ridge Y-12 Plant. He succeeds James K. Denton who has been named superintendent of finance and budgets reporting to the manager of accounting for the Nuclear Division.

Ragland, a native of McKenzie, Tenn., was educated in the Roane County schools. He attended Tennessee Polytechnic University and was graduated from The University of Tennessee with a B.S. degree in industrial management.

He came with Union Carbide March 7, 1960, after working briefly with the Corning Glass Works, Bradford, Pa.

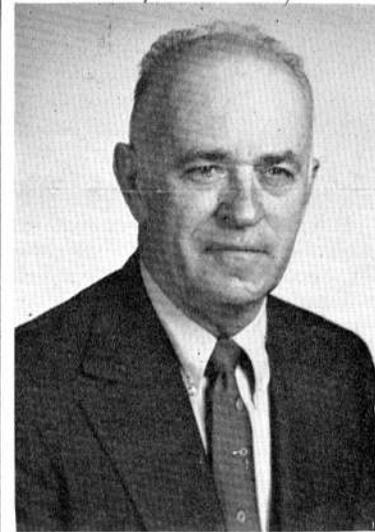
He is active in Kingston community affairs and serves as president of the Cherokee Parent Teachers Association. He is a past president of the Kingston Investors Club.

Ragland lives at Route 2, Edgewater Estates, Kingston. Mrs.



William R. Ragland

Ragland is the former Barbara Sproles, and they have one son, Stephen.



Garvin R. Stephenson



Ernest H. Taylor

G. R. Stephenson, E. H. Taylor Named Foremen in Y-12's Assembly Operations

Assembly Operations, in the Assembly Division, has announced the promotions of Garvin R. Stephenson and Ernest H. Taylor, both to foremen.

Stephenson, a native of Chester County, S. C., came here January 8, 1951, after working several years in the Oak Ridge area. He did carpentry work for J. A. Jones, Southeastern Construction, Ford-Bacon-Davis, H. K. Ferguson, Roane-Anderson and the G. G. Ray Company, all in this area. He also did sheet metal work for Stone and Webster during the construction years in Oak Ridge. He has completed a correspondence course from the Chicago Technical College.

The Stephensons live at Route 2, Clinton. Mrs. Stephenson is the former Lillian Peay. They have two sons, Warren G., who works in Cookeville; and William E., with the U. S. Army in Killeen, Tex.

Ernest H. Taylor

A native of Greenback, Tenn., Ernest H. Taylor came to Y-12 November 25, 1957, after a varied career. He holds a B.S. degree in

education from Union College, Barbourville, Ky. He taught school in Pineville for five years, and worked with the Missouri Bridge and Iron Co., Evansville, Ind., from 1942 until 1945. He came to Oak Ridge in the early years, working with the Poe Piping Co., Hanley and Co., Kaighin and Hughes, Rust, and the H. K. Ferguson Company.

The Taylors live at Route 17, Emory Road. Mrs. Taylor was the former Hester Slusher. They have five daughters: Linda Berry, employed in Y-12's Numerical Control Engineering; Geraldine Norton, teaching in the Anderson County School System; Patricia Ray, Route 17, Knoxville; Henrietta Elliott, also a teacher in Anderson County; Martha Litton, a teacher in Cincinnati; and sons Ernest H., Jr., working in Decatur, Ga.; and James R., employed with the City of Oak Ridge.



SECOND HALF—Paul W. Turner, Metallurgical Development, receives the second refund in the Carbide Education Assistance Program. One year after an advanced degree has been earned, the graduate is refunded his final fifty percent of costs for the education advancement. Turner receives his check from W. J. Yaggi, right, superintendent of the Development Division.

SAFETY SCOREBOARD

The Y-12 Plant Has Operated
34 Days Or
1,180,000 Man-Hours
(Unofficial Estimate)
Through March 7
Without A Disabling Injury
**SAFETY AT HOME,
AT WORK, AT PLAY**

Polowid

Polowid



ATTENDS AARP CONFERENCE—Thomas A. Burkett, left, Y-12's Retirement Councilor, recently attended the American Association of Retired Persons and the National Retired Teachers Association Conference in Atlanta. He is seen chatting with Fred Faassen, national president of AARP.

GBU's Sink All Basketball Foes

The big GBU's beat all comers in the Basketball League and finished with a perfect 11-win, no-loss record in the 12-team competition.

Final action in the league came last week as the old pros, the Bottlenecks showed the younger set a thing or two about hardwood play. The Bottlenecks' Schwartz and Butler led the parade in cleaning the boards and scoring as they tallied 18 and 12 respectively. The Jims, Milligan and Young, led the losers. The score: Bottlenecks: 46, Beta 2 Miners: 43.

The James Gang shot the Hawks clean out of the sky as they dominated both boards with Hunter Foreman raking them at will. Balanced scoring by all teammates paid off for the big Gang. The Gang ended with 67; the Hawks, 35.

The GBU's showed their nettle against the Mod Squad, 87 to 27, doing nothing wrong. The clock was the only mercy-conscious article of the game.

On Wednesday the Untouchables took a forfeit win from the Mod Squad.

The GBU's came from behind to take the final win of the season, 62 to 46 from the Beta 2 Miners. The Miners led at half time by one point, but in the waning moments of the third quarter, the GBU's broke it loose. Coming alive they out-scored the Miners 22 to seven in the third period.

The last game of the season saw the 69ers down the Hawks 79 to 49, as the superior muscles on the boards paid off for the 69ers. They raced with the Hawks, getting excellent shooting from the field, as well as the foul line.

Final standings follow:

Team	W	L
GBU's, Y-12	11	0
CC 69ers	10	1
Shoestrings, Y-12	9	2
James Gang, K-25	7	4
Untouchables, Y-12	6	5
Beta 2 Miners, Y-12	5	6
Bottlenecks, Y-12	5	6
Hawks, Y-12	4	7
K-25 Trojans	4	7
Wild Bunch, Y-12	3	8
Mod Squad, K-25	2	9
Demons, Y-12	0	11

QUARTERLY BADGE SWAP
Y-12ers will trade badges Wednesday, March 24, for new means of identification in the regular quarterly badge exchange. The new yellow-bordered badges will stay in the self-service racks at the portals-of-entry through midnight of April 7.
Pick up your badge before then.

Automation Cost Paper Given at ASME Meeting

The cost of establishing and maintaining automated machine tools in one of the nation's largest nuclear installation was discussed by a Y-12 engineer at the American Society of Manufacturing Engineers Automation Seminar in Atlanta, Ga. recently.



Davidson
D. R. Davidson, Numerical Control Engineering, explained some of the direct and indirect costs of automated equipment not always fully recognized nor understood by manufacturing and production personnel.

Y-12 began the installation of numerically-controlled machine tools in 1960, and presently uses over 180 such machines. These highly accurate tools require the support of large computer systems, sophisticated maintenance equipment and trained personnel.

'Impossible Split' Made By Classic's L. Vinyard

The Playboys reduced the lead of the Eightballs in Classic Bowling last week, by taking the top-seeded team for three points. The Eightballs now standing one-half point away from the All Stars. The Stars' Walt Joest rolled a 226 last week.

Big news on the alleys, however, was that the Rojo's Loyd Vinyard made the impossible 4-7, 6-10 split, something even pro's fail to do!

The Bumpers' John Sewell rolled a 246 single game on February 25, and Sewell Brown, Has Beens, posted a 684 series... 726 handicap-wise!

League standings follow:

Team	W	L
Eightballs	24	12
All Stars	23½	12½
Swingsters	22	14
Bumpers	21	15
Smelters	21	15
Markers	21	15
Has Beens	20	16
Screwballs	18½	17½
Playboys	17	19
Rippers	17	19
Eagles	15½	20½
Cubs	15	21
Tigers	14½	21½
Rebels	14	22
Rojo's	12	24
Spliters	12	24

ANOTHER 10-YEAR VETERAN
Charles J. Moody, A-2 Shops, 9212, March 16.



Will join car pool from East Village, Oak Ridge, to Bear Creek Portal, straight day. E. A. Williams, plant phone 3-5156, home phone Oak Ridge 482-2227.

Riders wanted from Concord, Farragut sections, via Lovell Road, to West Portal, straight day. J. C. Taylor, plant phone 3-7510, home phone Concord 966-5163.

Ride wanted, or will join car pool, from vicinity of Michigan, West Outer Drive, Oak Ridge, to Bear Creek Portal, H Shift. N. G. Young, plant phone 3-5121, home phone Oak Ridge 483-7253.

Ride wanted from West Haven or Lonsdale area, Knoxville, to North Portal, straight day. Gordon Holland, plant phone 3-7746, home phone Knoxville 522-1207.

Ride wanted from East Village, 106 Arizona Road, Oak Ridge, to East or North Portal, straight day. Glenn Bryson, plant phone 3-5761, home phone Oak Ridge 483-6678.

E. T. Johnson's Daughter Is Valedictorian At Norris

Burline Page Pullin has been tagged valedictorian at Norris High School, earning top scholastic honors there for her four years of school work.

Burline is president of the Girls' Intramural Association, secretary of the National Honor Society and is a member of the Beta Club and GIA's.

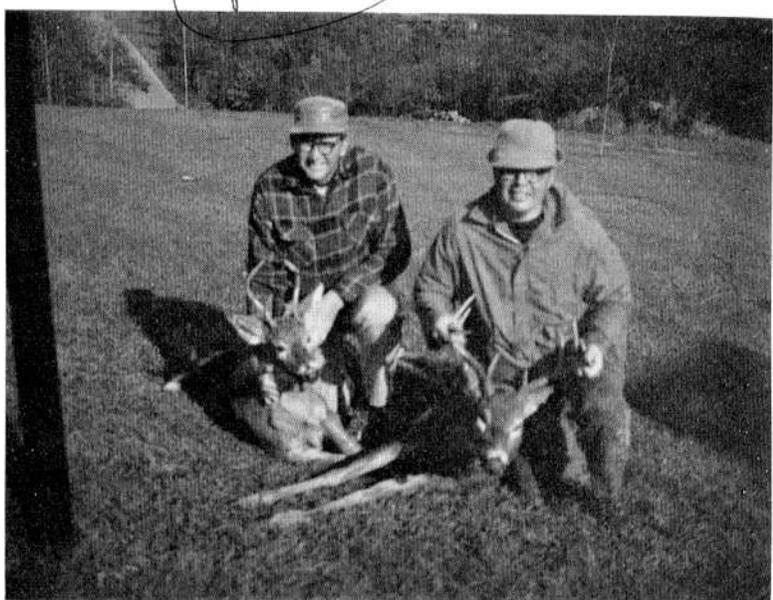
She has been active in sports as well as academics and has played basketball, and has been on the tumbling and track teams. She is a member of the All-Star volleyball team.

Burline is the daughter of Mr. and Mrs. Earl T. Johnson, Ridge Circle Rd., Route 1, Andersonville. Her father is a machining instructor in the Training and Technology Project, on loan from the big machine shop.

Anodes Retain 1-Point Lead in C Alley Race

The Anodes are still one-point leaders in the C Bowling race, after demolishing the Jaguars and the Royal Flush, both for three points.

Jim May, Fireballs, fired a 223 game last week; and the week be-



A BUCK A-PIECE—Jim Treadwell, left, and Dave Krehnke, brought down 126-pound and 180-pound bucks recently in Scott County. Treadwell, Management Information Systems, accounted for the deer with six points; Krehnke, Data Systems Development, took the 10-point beauty.

Brundage Fires High February Skest Score

The Skest and Trap League for February saw W. E. Brundage, ORNL, cap first place with a handicap score of 49.660. He was followed by G. J. Kwiecien, also of ORNL, with a 48.381. Y-12er Joe Comolander shot a 48.220.

Anyone interested in participating in future league action should contact Ben Etheridge, extension 3-5116. Council is readily available at the Oak Ridge Sportsmen's Association Range, free, of course.

February Skest Results:

Firer	H'Cap Score
R. A. Allstun, Y-12	48.165
C. Asmanes, Y-12	48.337*
C. G. Brewster, Y-12	47.872
W. E. Brundage, ORNL	49.660
P. W. Bullard, Y-12	48.624*
J. P. Comolander, Y-12	48.220
W. H. Davy, Jr., ORNL	46.913
B. S. Denton, Y-12	47.920
B. F. Etheridge, Y-12	48.130
G. J. Kwiecien, ORNL	48.381
V. Raaen, ORGDP	48.130
A. Van Hull, Y-12	48.130
W. E. Weathersby, Y-12	46.893
F. G. Welfare, Y-12	45.781
R. E. McHenry, ORNL	45.714

*Under penalty, previous winner.

fore that Bob Whitaker, Purple Pygmies, poured a 237 down the alleys. On March 1 Jack Lovegrove, Sunflowers, sank a 558 scratch, 643 handicap series down.

Team	W	L
Anodes	26	10
Instrument Engineers	25	11
Sunflowers	25	11
Fireballs	21	15
Badgers	21	15
Rollmasters	17	19
Jaguars	17	19
Parbusters	15	21
Purple Pygmies	14	22
Rounders	13	23
Royal Flush	11	25
Big Five	11	25

Spliters, Mix Ups Share Starlite's Alley Top Spot

The Spliters stand up in the Carbide Starlite stand, tied to the top with the Mix Ups; both teams winning 11 and losing four. The Mix Ups moved up last week by downing the Woodpeckers for the full count.

J. Holt, Mix Ups, rolled a 212 game on March 4... while H. Gerth, Woodpeckers, wound up with a 560 scratch series.

League standings follow:

Team	W	L
Spliters	11	4
Mix Ups	11	4
Latecomers	10	5
Wildcats	9	6
Woodpeckers	8	7
Raiders	7	8
Pin Boys	7	8
Rollers	6	9
Comets	3	12
Marauders	3	12

Alley Cats Assume Lead On Mixed League Alleys

Y-12's Mixed Bowling League got new leaders last week, as the Alley Cats swept four points away from the Cougars, and moved into a two-point lead over the Rollers.

Bill Sahr, Twisters, tore a 231 game out February 24... and Fred Hammon, Goofers, rolled a 221 last week.

League standings follow:

Team	W	L
Alley Cats	27	13
Rollers	25	15
Twisters	24	16
Friskies	21	19
Hits & Misses	20	20
Goofers	16	24
Cougars	15	25
Roses 'n Thorns	12	28



STERLING SAFETY PERFORMANCE—Employees in the uranium chemical recovery section of Chemical Services have functioned without serious, first-aid or lost-time injuries for more than three years. Foreman K. C. Arnold, right, makes it a point to discuss the safety angle with each employee before a job is assigned. From left, are W. M. Eads, T. W. Osborne, O. J. Howard, R. A. Mullins, J. E. Davis, B. A. Black, E. C. Humphrey, D. B. Braden, F. S. Stroupe, M. M. Giles and Arnold. The group's operations involve the recovery and purification of uranium scrap, generated in fabrication, to a form available for re-use in the plant.

THE CARBIDE COURIER

Thursday, March 11, 1971

Page 3

Proper Safety Measures Curtail Accidents from Electrical Shock

Electricity is responsible for thousands of injuries and deaths each year. The majority of electric shocks and fatalities are due to human failures and errors. Very few accidents occur from failures of approved type of equipment which has been properly installed, tested after installation, and used in accordance with applicable safety precautions.

The average number of deaths from electric shock in the nation per year is about 950, of which 270 occur in the home and 81 on the farm, all on 120 to 240 volt utilization circuits. Industrial deaths due to electric current account for an additional 200, and since most of these occur on circuits having a voltage of 480 volts or less, it is apparent that more than one half of the deaths from electric shock are due to contact with low voltage circuits.

Normally we achieve safety from electric shock by isolation, insulation, grounding, and current limitation. It is only when one or more of these safety measures become defective or are circumvented that there is an electric shock hazard. Even when home appliances become defective, the electric shock hazard can be avoided by keeping one's body from becoming part of the circuit. Never hold an energized electric appliance with wet hands, or when wearing wet shoes, or when standing barefoot on the ground or wet floor, or when in or near a bathtub.

Water Adds to Danger

Water provides a most dangerous condition for receiving electric shocks and no person should use electrical apparatus when

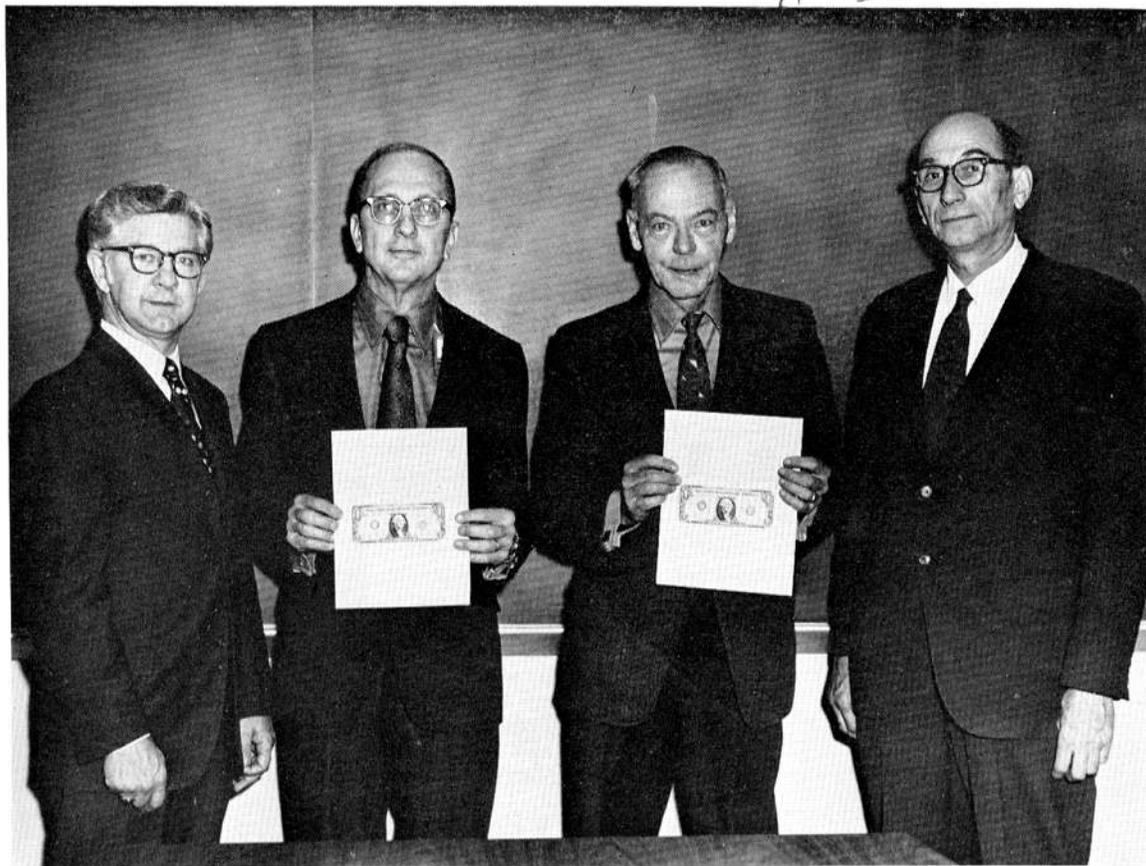
barefoot or when his feet are dangling in the water, as from a pleasure boat, boat dock, or around a swimming pool. In contrast, shoes, rubber overshoes, old socks, newspapers, and ordinary floor coverings, when dry, provide a high degree of protection from defective appliances.

It is important to discontinue immediately the use of portable tools or equipment which have given warning of a potentially hazardous condition, such as by causing a slight electric shock during operation. The slightest shock from operating an electrical appliance in one location might, in another location, result in instant death if part of the body made only slightly better contact with the ground or a grounded metallic object.

In case of an electric shock accident, as soon as you can without risk to yourself, free the victim from contact with the circuit. Immediately break the circuit by removing the extension cord from its receptacle or by opening the switch. As a general rule, if you don't know which switch to open, open all of them. If the victim is still receiving a shock, use a dry stick, dry rope, dry clothing, or any nonconductor to separate the victim from the energized conductor. Move either the conductor or the victim; this must be done promptly and safely. Do not touch any part of the victim's body so long as he is electrified. If the victim appears not to be breathing, immediately apply resuscitation. Continue resuscitation until the victim revives, or until a physician takes over.

Many electrical shock and burn

(Continued on Page 4)



PATENT APPLICATION—G. S. Petit, ORGDP, and C. A. Kienberger, Y-12, received patent application letters recently for their development entitled, 'A Method for Preparing Stable Actinide Peroxide Sols.' From left, C. W. Weber, Chemical Analysis Department; Kienberger, Petit, and J. C. Barton, superintendent of the Laboratory Division. Kienberger has transferred to the Special Metals Laboratory at Y-12.

HOLD ONTO BONDS

Now, more than ever before, it pays to hold onto those U. S. Savings Bonds which you may now hold. Hold them to maturity and they'll earn an interest bonus retroactive to June 1, 1970. New E Bonds will pay five and one-half percent interest when held to maturity of five years and 10 months (four per cent the first year).

Petit-Kienberger Development Brings Patent Application Here

George S. Petit and Charles A. Kienberger recently received patent application letters for work performed while they were both members of the Chemical Analysis Department of the Laboratory Division at the Oak Ridge Gaseous Diffusion Plant. Kienberger has since transferred to the Special Metals Laboratory at Y-12. The award is the eighth received by Petit and the second by Kienberger.

The patent application is entitled "Method for Preparing Stable Actinide Peroxide Sols," and consists of the precipitation of the actinide, or actinide mixture, such as uranium and thorium, as the peroxide. The precipitate is filtered, dried, and then peptized in a dilute hydrogen peroxide solution to form the sol. The sol is then dehydrated by evaporation or solvent extraction to form the desired particles which are then converted to the oxide by ignition and reduction.

George S. Petit

A native of Lexington, Ky., George S. Petit attended the University of Kentucky, after graduating from the Cynthiana High School. He spent the next few years as a grocer, butcher and salesman, and served with the 91st Infantry Division in Italy during World War II. He was wounded twice by mortar fire in the campaign. He reentered UK

in 1949 and was graduated in 1952 with a B.S. in chemistry. He joined Union Carbide, here at K-25, a week after his graduation.

Petit is married to the former Jane Powers, who worked in Y-12 and K-25 also. They live at 139 West Madison Lane, Oak Ridge.

Charles A. Kienberger

Charles A. Kienberger was born in Butler, Mo., and graduated from Missouri Valley College, Marshall. He joined Union Carbide at Columbia University in February, 1944, before completing graduate work at the University of Missouri, Columbia. He transferred to ORGDP in 1944 where he supervised the installation, calibration, and operation of the alpha, beta, gamma and fission counting facilities in the K-25 Laboratory. He transferred to Y-12 in 1968, and is supervisor there of the Special Metals Laboratory.

Kienberger is married to the former Lorine McElhiney. They live at 103 Vista Road, Oak Ridge, and have one daughter, Charlene. She holds a B.S. degree in nursing from Vanderbilt and an M.S. from Cincinnati University. She is married to Dr. George E. Smith, a surgeon with the U. S. Army Hospital on Okinawa.

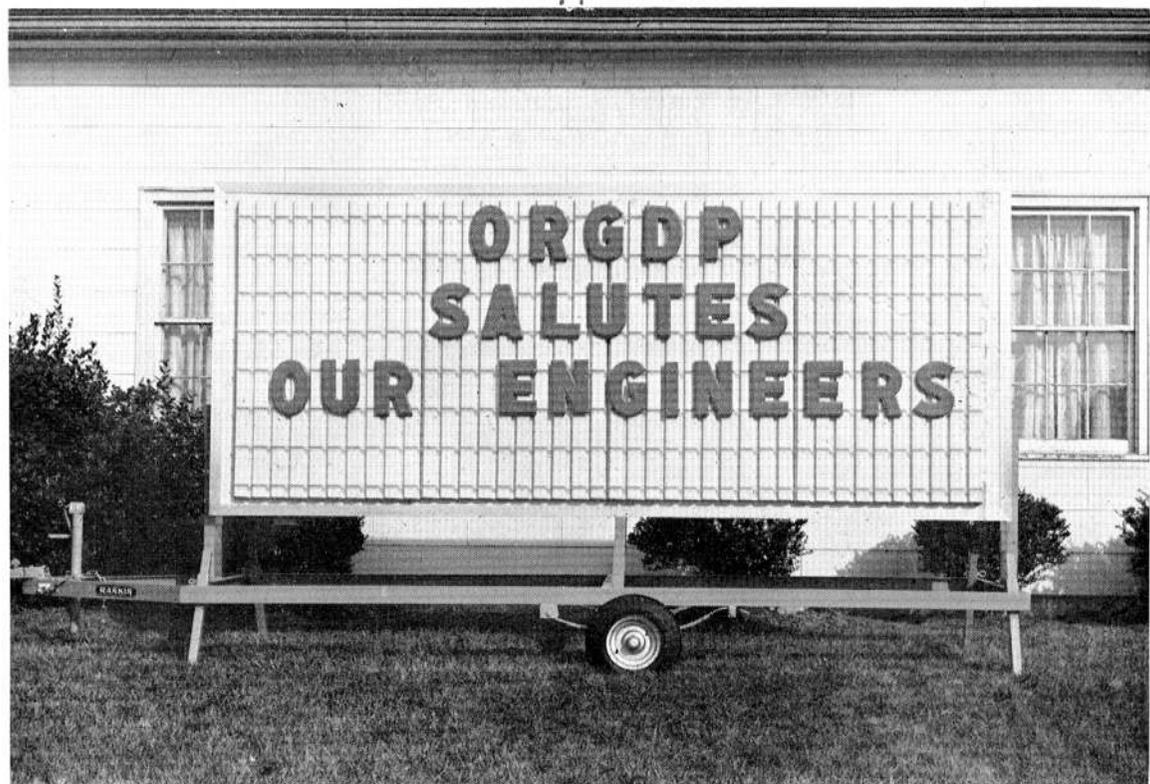
SAFETY SCOREBOARD

OUR PLANT
Has Operated
329,000 Safe Hours
Through March 4

Since last disabling injury on Feb. 9

THE CARBIDE COURIER

Published Biweekly
Editor H. J. Mayberry
K-1002 Building, Tel. 3-3097



PORTABLE SAFETY SIGN—This new sign will be placed in strategic locations throughout the plant to convey current safety slogans and messages, as well as announcements of interest to ORGDP employees. It can be lighted electrically for night visibility. The 'traveling' sign was first used to call attention to Engineers Week.

Engineering

by F. Dodge



Cheryl Ann Bogdanowicz
Sister Mary Theresa

Cheryl Ann Bogdanowicz has joined her older sister at Aquinas Junior College in Nashville. Both Bogdanowicz daughters are studying to become a nun. Susan, the oldest, has already received her black veil in her third year at Aquinas, and is now Sister Mary Theresa.

Both girls were honor students at Catholic High School in Knoxville, averaging 2.9 out of a possible 3.0 score. Both sisters have studied music and play the organ for church services.

They are the children of Walter Bogdanowicz. There is a son, Mike, who is studying commercial art.



Denise Medved

Denise Medved, daughter of Martin Medved (Mechanical Engineering Department), had the leading role in a musical drama, "On a Clear Day," presented by the music department of Tennessee Wesleyan College. The play featured a matinee showing on February 9 and 10 and was given on February 11 and 12 in Townsend Auditorium.

Denise has also been appointed as an Ambassador for the College. The Ambassadors act as hosts and hostesses for all visitors and visit schools and colleges in Tennessee and other states to present performances concerning life on TWC.

She is a feature writer for the college newspaper, "The New Exponent" and is also on the Annual Staff.

F. G. Kitts Sweeps All Events Honors in Bowling Tournament

A total of 18 teams, seven women's and 11 men's, participated in the Annual K-25 Bowling Tournament held at the Ark Lanes on Saturday and Sunday, February 27 and 28. There were 14 entries in the Women's Doubles, 23 in Men's Doubles. Singles entries totaled 28 women and 46 men. The All Events competition included 26 women and 41 men. Thirty couples participated in the Mixed Doubles event.

The Up Towners won both the handicap and scratch honors in the women's team event with a score of 2242-2884. This team was composed of Rosa Wells, Scarlette Osborne, Onah Fox, Maxine Gunter and Mary Foley. The Up Towners thus get the scratch trophies and the Dilly Dallies, with the next highest handicap score win the handicap trophies.

Double X Team

The Double J team had the best handicap game scoring 2986 pin fall. This team was composed of D. E. Hatch, J. D. Bowers, S. C. Jacobs, R. J. Fraser and P. E. Clabough. The Lab Demons had high scratch score in the men's team event with a total of 2570.

Vernice Clower and Helen Hobson were high in both the scratch and handicap scores in Women's Doubles with 1028-1232. Jo Acres and Eileen Walbrecht had the next high handicap score, thus they win the handicap trophies.

Ernie Bogle and Po Smith had both the scratch and handicap high scores in the Men's Doubles with 1132-1246. Bob Greer and Ray Rinehart had the next best handicap score to win the handicap trophies.

Bogle Singles Champ

Mary Bailey won handicap honors in Women's Singles with a 622 score. Mary Foley's 514 scratch was high in this event.

Ernie Bogle had both scratch and handicap high scores in Men's Singles rolling a fine 646-703. Jim Corn came second in the handicap singles with a 661, thus winning the handicap trophy.

Mary Foley had both high scratch and handicap scores in Women's All Events with scores of 1602-1809. Rosa Wells' Score of 1781 next high handicap so she receives the handicap trophy.

Kitts All Events Top

F. G. Kitts had both scratch and handicap highs in the Men's All Events with score of 1727-1907. Bob Greer with an 1897 handicap score wins the handicap trophy.

Roslyn Bridges and Ernie Bogle paired to win both scratch and handicap honors in the Mixed Doubles with scores of 1008-1212.

Electric Shock

(Continued from Page 3) accidents would not happen if the operator of an electrically-driven tool or appliance followed a few simple rules:

- (1) Do not purchase or use any electrical tools or equipment that do not carry the "Seal of Approval" of the Underwriter's Laboratories, Inc.
- (2) Perform regular inspection and maintenance of electrical tools, cords, and equipment.
- (3) Use only 3-wire grounded receptacles to serve tools or equipment.
- (4) Test equipment for installation resistance and correctness of equipment ground after installation or after making repairs before placing it in service.
- (5) De-energize electrical circuits before working on or near them, and take the necessary steps to assure that the circuits will remain de-energized.



MEN'S DOUBLES — Winners in men's double rolling were Po Smith, left, and E. V. Bogle, who also won in men's singles competition.

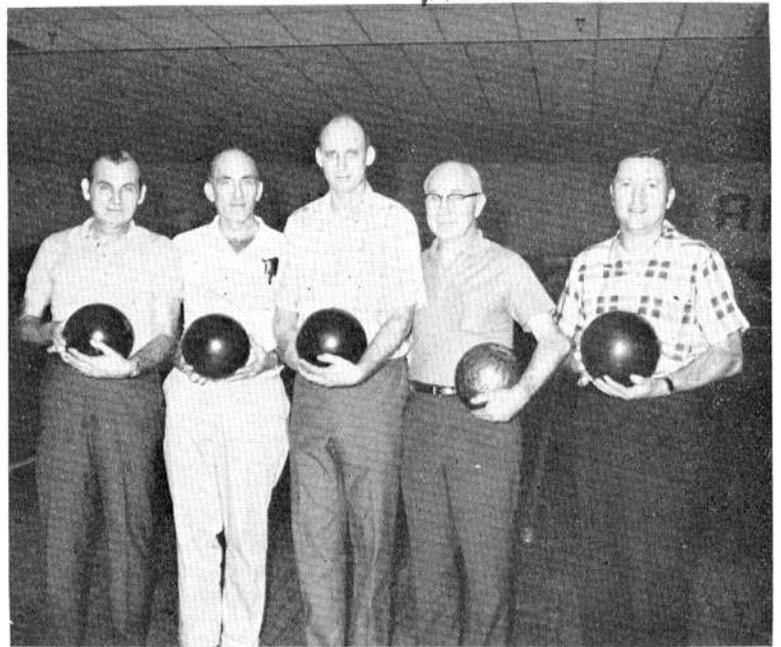


ALL EVENTS—Women's All Events champ was Mary Foley, with the best total score of all women bowling in the tournament.

Jo Acres and Al Mallett were close behind with a 1211, thus winning the handicap trophies.

Here are all the winners:

Women	
Up Towners	2884
Dilly Dallies	2807
Bowlettes	2759
Wood Bees	2729
Doubles	
V. Clower, H. Hobson	1232
J. Acres, E. Walbrecht	1224
D. Frazier, M. Canterbury	1210
S. Osborne, M. Foley	1161
M. J. Carden, S. Davis	1154
Singles	
Mary Bailey	622
Rosa Wells	617
Maxine Gunter	597
Vernice Clower	595
Jean Mooney	586
Chloris Starlin (tie)	585
Sue Davis (tie)	585
All Events	
Mary Foley	1809
Rosa Wells	1781
Jean Mooney	1771
Jo Acres	1754
Men	
Double X	2986
Lab Demons	2972
Possibles	2877
All Stars	2844



MEN'S CHAMPS—The Double X team, including, from left, Paul Clabough, Dwight Hatch, Ray Fraser, Jim Bowers and Sheldon Jacobs took honors in the team competition.



MIXED DOUBLES—Winners in Mixed Doubles include A. J. Mallett and Jo Acres, who placed second losing out to Roslyn Bridges and E. V. Bogle, right, by one single pin.

Doubles	
E. V. Bogle, H. Smith	1246
R. L. Greer, R. V. Rinehart	1226
M. J. Gibson, G. J. Marrow	1206
B. D. Simcox, P. E. Clabough	1197
F. Strang, W. Wendolkowski	1175
Singles	
E. V. Bogle	703
J. A. Corn	661
F. G. Kitts	656
C. F. Hale	643
T. Pritchard	640
R. L. Greer	138
J. F. Johnson	632
S. J. Wheatley	631
L. Allard	630
M. J. Gibson	626
All Events	
F. G. Kitts	1907
R. L. Greer	1897
L. Allard	1875
Lee Bradley	1861
Mixed Doubles	
R. Bridges, E. V. Bogle	1212
J. Acres, A. J. Mallett	1211
C. Castle, C. W. Castle	1208
I. Simcox, B. D. Simcox	1206
N. Hay, R. Dukes	1205
D. Gordon, J. D. Bowers	1174



WOMEN'S DOUBLES — Helen Hobson, left, and Vernice Clower took women's doubles honors in the K-25 tournament held February 27, 28.

Women's Bowling

Mary Foley had the best scratch scores in the February 23 session of the Women's League with a 214 single game and a 553 series. Betty Kemper had high handicap game score with 248 and Sue Davis had the best handicap series, a 627.

Marilyn Canterbury had most of the honors in the February 16 session rolling a 203-245 single game and a 610 handicap series. Oleta Carden had the best scratch series with a score of 508.

Standings

Pay-Offs	26	Spotters	13
Wood Bees	16	Hot Shots	12½
Pin-Ups	15	Bowlettes	11
Up-Towners	14½	Hits & Misses	4



Additional members to car pool wanted, from Georgia Ave. and Tampa Lane, Oak Ridge, to Portal 2—shift 7:45 to 4:15—contact John McKeever ext. 3-3470, home 483-7208.



PRESS AND THE REPUBLIC
"Our Republic and its press will rise or fall together. An able disinterested, public-spirited press, with trained intelligence to know right and courage to do it, can preserve that public virtue without which popular government is a sham and mockery." Joseph Pulitzer.

Part II

Rising Costs of Medical Care

By T. A. LINCOLN, M.D.

It has been estimated that 50 percent of the patients in most general hospitals could be promptly discharged to their homes without endangering their lives. Although hospital costs have been rising at an alarming rate, it is the increase in hospital use where the biggest rise in public expenditure for medical care has occurred. Much of this has been for diagnostic services.

Some years ago it was suggested that if insurance companies would pay for diagnostic tests performed on outpatients in the hospital or in the physician's office, fewer people would be unnecessarily occupying expensive beds. Hopefully, the increased costs of providing these services would be more than compensated for by the decreased use of hospital beds.



Dr. Lincoln

Some years ago it was suggested that if insurance companies would pay for diagnostic tests performed on outpatients in the hospital or in the physician's office, fewer people would be unnecessarily occupying expensive beds. Hopefully, the increased costs of providing these services would be more than compensated for by the decreased use of hospital beds.

A number of studies have been performed and so far almost all have failed to show any decrease in hospital use when full coverage for both inpatient and outpatient services have been provided.

Dr. Milton Roemer, director of research of the Sloan Institute of Hospital Administration of Cornell University, Ithaca, N. Y., has studied the impact of the comprehensive health insurance plan of Saskatchewan, Canada, which began in 1947. The entire population was covered with hospitalization insurance with almost no limitations. In addition, there was a variety of programs of prepaid physician's care which covered services both in and out of the hospital. He found that as more benefits were provided outside the hospital, the more the hospital was used. As medical care became available without cost, more people went to physicians, more things were found which eventually were treated in the hospital. Many diagnostic studies were conducted in the hospital because physicians found this process more efficient and convenient.

Blue Cross Research Reveals Figures

Denwood N. Kelly, executive director of Maryland Medical Service, Inc., the Blue Cross and Blue Shield Organization, was one of the early insurance executives to experiment with changes in coverage and then study their effects. Based on six years experience he predicted that during the first three years that diagnostic services are offered in physicians' offices and hospital outpatient departments, there will probably be a significant increase in the inpatient admissions. After about five years, there will be a leveling off but the cost of providing the outpatient services will never be offset by savings from eliminated admissions.

A more recent study in Massachusetts involves 5000 subscribers of a Blue Cross plan indicated that coverage for outpatient care doesn't reduce costs for hospital services.

Of special significance is the fact that in none of the studies were the inpatient diagnostic services reduced to "force" more use of outpatient services. For example, such could be accomplished by requiring the inpatient to pay the first \$100 for diagnostic services accomplished during any admission which lasted less than one week. No insurance executive in his right mind would suggest such a program if he wanted to sell insurance, so it's not likely to be tried.

Supply and Demand Theory Applies

Blue Cross and Blue Shield has found that the more the coverage provided, the more it is used. Drs. Charles Lewis and Harold Keairnes from the Harvard Center for Community Health and Medical Care suggested last summer in an article in the *New England Journal of Medicine* that "Parkinson's law may apply to the various parts, if indeed not all aspects of the present health-care system." The more medical care available and the ability to pay for it, the more it will be used.

There doesn't seem to be a saturation point in sight. Doctors create their own demand for their services. There is even evidence that the volume of surgery performed is proportional to the number of surgeons and beds available.

Over 50 percent of middle class patients who go to the physician probably have no urgent need for medical care. The visit is prompted by concern about their health and a need for symptomatic relief of a condition which would eventually pass without specific treatment or for which some change in life



A GIFT OF SIGHT—Carbiders could very easily leave the priceless gift of sight after they are gone to some blind person through the efforts of Oak Ridge Lions Club. The East Tennessee Eye Bank urgently needs to add thousands in this area to the list of eye donors. Have you signed a card?

Priceless Gift of Sight Can Be Made Easily!

How would you like to give someone a priceless gift? One that doesn't cost a penny. You can will your eyes to the East Tennessee Eye Bank, making them available to surgeons in this area for the performance of the miraculous corneal transplant operation.

After you are gone, your eyes can live on in the possession of some grateful person now totally blind!

The ETEB is a non-profit organization supported by the Lions Club of this area. Their mission: obtaining, preserving and transporting eyes, keeping a supply of corneal tissue whenever and wherever it is needed. Modern techniques produce a high percentage of success in blind recipients having damaged or clouded corneas. **YOUR EYE DONATION CAN HELP SOME INDIVIDUAL TO SEE—A PRICELESS GIFT!**

Some of the most frequently asked questions on the Eye Bank are listed:

- 1. How are eyes obtained?**
Eyes are removed after death from persons who have generously pledged their eyes for this purpose while living.
- 2. How soon must eyes be removed after death?**

style would be a more effective treatment than medicine.

Nevertheless, Americans want more and better medical care to be available in the most convenient and personally least costly manner as possible. The time between the development of a new method of treatment and its general availability must be radically shortened.

It is about time we recognize that universal luxury medical care, which we seem to be demanding, will be fiercely expensive regardless of who provides it, who pays for it or under what system it is delivered. One way to reduce costs would be to provide self-care facilities either in or near the hospital for patients having diagnostic studies. Inpatient beds would be released for "sick" patients.

By a doctor within four hours, and be transplanted to the recipient within 48 hours.

- 3. Does age make a difference in donating one's eyes?**

If the tissue is clear, the eyes of a young or old person can be used.

- 4. Does the removal of the eyes cause disfigurement?**

None at all.

- 5. Can minors sign eye-will forms—can parents sign forms for their minor children?**

No. Only persons 21 years and older may sign their own pledges.

- 6. Does the fact that one wears glasses make a difference?**

No, it has no bearing on the usefulness of the corneal tissue.

- 7. Can eyes be bought or sold?**

Eyes are NEVER BOUGHT or SOLD.

- 8. Is there any charge for the services of the East Tennessee Eye Bank?**

None.

- 9. Where are the donated eyes used?**

They are used to help the most eligible recipient in the East Tennessee area, most often in a transplant operation at the University of Tennessee Memorial Hospital. If there is no local need, an elaborate communications and transportation system involving ham radio operators, the Tennessee State Highway Patrol, and jet airlines, ensures the delivery of donated eyes anywhere in the country, where they are needed, within the 48-hour time limit. No charge is made for any of these services.

- 10. How many can be helped by the corneal transplant?**

It is estimated that one out of every 25 blind persons can be helped by the corneal transplant operation.

- 11. Is there much demand for eye donations?**

The demands for corneal tissue have always exceeded the supply. In some regions of the country a blind person may have to wait for years until the required corneas are available for his transplant.

The necessary forms are obtainable from any member of the

Lions Club. If you do not know any, Chet Morris, telephone 483-1798; or Fred Mundt, telephone 483-4288, will be happy to mail the necessary forms to you.

Then all you do is fill it out, let two witnesses see your signature, and return. In about two weeks, a permanent card will be mailed to you. You are to carry that card with you, in your wallet or purse. Your next of kin should be told of your wishes. Immediacy is highly important.

Data from Plants Increase in 1970

Publication of more than 70 detailed reports and response to approximately 600 requests for information highlighted efforts during 1970 by the Oak Ridge Gaseous Diffusion Plant and Oak Ridge Y-12 Plant to make unclassified technology available.

Groups located at ORGDP developed 35 detailed technical reports, and staff members presented a total of 30 papers at professional meetings. In addition, 20 papers were published in technical journals.

More than 180 requests for information from organizations in the United States were received by the gaseous diffusion plant. An additional 97 requests were received from 30 foreign countries.

Y-12 developed 37 detailed technical reports during the year. In addition, 57 technical papers were presented at professional society meetings and seven articles were submitted for publication in technical journals.

A total of 344 requests for information was received, including 83 requests from foreign countries. Other information disseminated by Y-12 included 44 information packets developed by the Machining and Gaging Information Center which is located in the plant.

Copies of the detailed technical reports are available from the National Technical Information Service, U.S. Department of Commerce, Springfield, Va. 22151.



ORCBA DANCERS—Shown, from left, are Ann Makinodan, Marty Toomer, and Janet Boyd in a movement from the Moszkowski **Spanish Dances**, a recent performance by the Oak Ridge Civic Ballet's Company of local dancers. All three girls are daughters of Union Carbide employees—Ann's father is Takashi Makinodan at ORNL; Marty's is L. C. Toomer at ORGDP; and Janet's is John H. Tudor Boyd at ORGDP. ORCBA is now in its annual membership drive.

Pack Monopolize Volleyball Tops

The Pack still leads the "pack" of Volleyballers after 11 weeks of play . . . two points out in front of the K-25 Hawks.

Action started recently as the Quarks took the AECOP's Foibles 15-5 and 15-3 . . . then the Foibles returned to win game three 15-12. The Set-Ups sank the Y-12 Old Men 15-4, 17-14 and 15-11. The Pack laid it on the Radpheys 15-6, 15-0 and 15-5. The Gang galloped past the Bombers 15-4, 15-3 and 15-1. The K-25 Hawks hit the Environmentalists 15-5, 15-8 and 15-1. The ORNL Old Men outlasted the Eagles 15-8, 15-5; then lost game three 15-5. The Boomerangs beat the Gooneybirds 15-7 and 15-9, while the Birds won game two 15-7.

Last week the Set Ups sailed past the Environmentalists 15-7, 15-12 and 15-13. The Gang "aged" the Old Men from ORNL 15-8, 15-10 and 15-13. The K-25 Hawks clipped the Quarks 15-7, 15-11 and 15-6. The Y-12 Old Men beat the Bombers 15-5, 15-4 and 15-5.

On Court B the Eagles defeated the Radpheys 15-10 and 6-3 (as time ran out). The Eagles took game two 17-15. The Pack pelted the Boomerangs 15-8, 15-3 and 15-3. In final action the AECOP's Foibles felled the Gooneybirds 15-7, 15-10 and 15-6.

League Standings follow:

Team	W	L
The Pack, ORNL	32	1
K-25 Hawks, K-25	30	3
The Gang, K-25	27	6
Set Ups, ORNL	23	10
ORNL Old Men	19	14
AECOP's Foibles, K-25	16	17
Radpheys, ORNL	15	18
Quarks, K-25	14	19
Boomerangs, ORNL	14	19
Eagles, Y-12	13	20
Y-12 Old Men	12	21
Bombers, ORNL	6	27
Gooneybirds, ORNL	5	28
Environmentalists, ORNL	5	28

Toll Enrichment

(Continued from Page 1)

The other two contracts just signed are with Indiana and Michigan Electric Company, with headquarters in New York City, which will involve approximately \$238,800,544 in separative work over the next 30 years; and with Florida Power Corporation of St. Petersburg, Fla., which will involve some \$93,405,696 in separative work over a 30-year period.

ORCBA Schedules Drive For Members in March

March is membership month for the Oak Ridge Civic Ballet Association, a nonprofit community arts group designed to stimulate a wider appreciation of dance, to develop local dance talent, and to bring professional performances to Oak Ridge.

Persons interested in joining the organization should contact Mrs. J. T. Gillespie, membership chairman (483-5285) for more information. Membership forms and brochures will be mailed on request.

ORCBA supports outstanding young students who have successfully auditioned to become Company members and are taking additional training at recognized area dance schools. Participation in the Company provides the developing artist with an opportunity for group study in technical skills and ensemble performance, while at the same time enabling the community to enjoy their talents at annual performances.

Each year ORCBA sponsors two major Company performances, a performance by a professional group, and a ballet film.

SOFTBALL, ANYONE?

The Nuclear Division's Recreation Departments have issued the call for softball players for summer competition.

You may enter as a team, or you may call in as an individual who wishes to be included on a team.

Nuclear Power Series Of Seminars Continue

The series of seminars dealing with the technical issues of nuclear power continue at the Oak Ridge National Laboratory. These discussions, of particular to all Nuclear Division personnel, are scheduled for Wednesday's at 3 p.m. in ORNL's Central Auditorium, Building 4500-N.

Remaining seminars are listed as:

March 24—Marvin Yarosh, "Waste Heat from Power Production—Can the Environment Absorb It?"

April 14—S. I. Auerbach, "Ecological Aspects of Nuclear Plants."

April 28—E. P. Epler and W. K. Ergen, "Nuclear Accidents—Probability and Consequences."

May 12—W. B. Cottrell, "Nu-

Red Cross Appeals For Emergency Aid

The Anderson County chapters of the American National Red Cross have joined the national appeal for disaster funds to aid victims of tornadoes, blizzards, and flood conditions across the country.

According to Jack Wilson, chairman of the Oak Ridge chapter, it is estimated that more than 750 homes were destroyed in Mississippi, Louisiana, and Tennessee alone during the recent storms. In addition, some 980 homes were damaged, about 125 farm buildings were destroyed, and some 125 small businesses were damaged. Nearly 100 persons were killed, and about 950 injured.

To aid disaster victims, he continued, the Red Cross sheltered about 1,000 persons, and is continuing to feed and shelter most of them until adequate housing can be obtained.

Wilson stated that Red Cross disaster vans are touring predominantly rural areas dispensing food medical care, blankets, and cots. Red Cross volunteer nurses are assisting in crowded hospitals in which 200 are under care.

Those wishing to aid disaster victims are asked to mail checks or money orders payable to "Disaster Fund, American Red Cross" to the local chapter of the American Red Cross at 908 Oak Ridge Turnpike, Oak Ridge, Tenn. 37830.

Childbirth Courses To Begin Thursday

The spring series of classes for expectant parents sponsored by the Oak Ridge Childbirth Education Association begins Thursday, March 18, at 7:30 p.m. at the First United Methodist Church. Classes will be held every Thursday, through May 13.

Topics to be discussed include nutrition during pregnancy and lactation, conduct and further techniques of labor, infant nourishment, child care, and postpartum readjustment. Movies and demonstrations will complement the lectures. A \$6 fee is charged, which covers a year's CEA membership, class materials, access to an extensive library of books on subjects of interest to the expectant mother, and a bi-monthly newsletter. CEA is not exclusively a natural childbirth organization. It seeks to inform about all aspects of expectant parenthood, no matter which delivery method is desired.



Mrs. Brown Brown, wife of Walter Brown, ORGDP, is class coordinator.

Other CEA board members are Mrs. William Fletcher, Mrs. C. R. Fisher, Mrs. Warner Christie, Mrs. Gerald Boroughs, Mrs. Leonard Abbatiello, Mrs. Al King, Mrs. William Ronald Cobb, Mrs. Brian Annis, Mrs. Carson Lee, Mrs. Fred Bright and Mrs. Wayne Canary. Barbara Nettesheim, wife of Paul Nettesheim, ORNL, is exercise instructor.

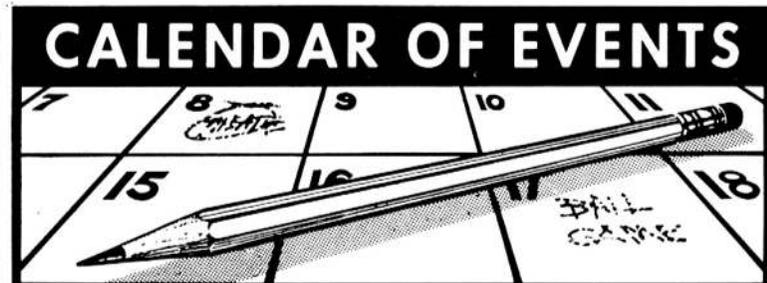
clear Power Plants—Decreasing the Probability of an Accident."

A panel discussion featuring all previous speakers, moderated by A. M. Weinberg, will climax the seminar, on May 26.

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TECHNICAL March 12

Biomedical Graduate School Seminar: Title to be announced. Martin Gibbs, Brandeis University. Large Conference Room, Building 9207, 12:15 p.m.

Special Physics and Chemistry Divisions Seminars: "Evidence for the Possible Discovery of a Super Heavy Element," A. Marinov, Rutherford Laboratories, England. Central Auditorium, Building 4500N, 11 a.m.

Physics Division Seminar: "Neutron Capture Levels," F. J. Dyson, Institute for Advanced Study, Princeton, N. J. East Auditorium, Building 4500N, 3 p.m.

March 13

American Society for Nondestructing Testing—Ladies' Night, Oak Ridge Country Club, social hour: 6:30, dinner: 7:30 p.m.

March 15-17

Third Conference on Neutron Cross Sections and Technology. University of Tennessee. Arrangements: ORNL Personnel Services.

March 18-19

Mathematics Division Annual Information Meeting. Building 4500-N, Central Auditorium, ORNL, 9 a.m.

March 22

Cancer Research Series: "New Aspects in Carcinogenesis Research with Special Reference to Problems of Diaplacental Carcinogenesis and Relationships Between Carcinogenesis and Immuno-Suppression," D. Schmahl, Institute for Experimental Toxicology and Chemotherapy, Heidelberg. Large Conference Room, Building 9207, 12:15 p.m.

March 24

Metals and Ceramics Division Seminar: "Precipitation," R. W. Carpenter. East Auditorium, Building 4500N, 2:45 p.m.

Nuclear Power Seminar: "Waste Heat from Power Production—Can the Environment Absorb It?" Marvin Yarosh. Central Auditorium. Building 4500-N, 3 p.m.

March 25

American Society of Mechan-

High Power Rifle Match Begins Firing March 27

The first match of the All-Carbide High Power Rifle Tournament will be held March 27 at the Oak Ridge Sportsmen's Association. Subsequent matches are scheduled for April 24, May 15, June 5, July 10, and July 24.

Any Union Carbide employee is eligible to shoot in these matches. Interested shooters may obtain details from the Recreation Department; in Y-12, extension 3-7109; in ORGDP, extension 3-3097.

cal Engineers—Joint meeting of Oak Ridge and East Tennessee sections. Student Papers Competition. Deane Hill Country Club, Knoxville, social hour: 6:30 p.m.

COMMUNITY March 12

Oak Ridge Playhouse presents "Spofford," a comedy. Oak Ridge Playhouse, 8:20 p.m. Admission: Adults \$2.50; students \$1.50. Other performances March 13, 19 and 20.

March 13

Oak Ridge Civic Music Association, Symphony Concert, Oak Ridge High School Auditorium, 8:15 p.m. Admission: Adults \$2.50; students \$1.25.

March 19

Oak Ridge Art Center Medium of the Month, 7:30 p.m. Admission free.

March 21

Art Center Film Club presents "Hunger," a 1966 Swedish film. Jefferson Junior High, 8 p.m. Admission: Adults \$1; students \$.50.

March 26

ORCMA Women's Guild benefit dinner-dance. Oak Ridge Country Club, 7 p.m. to 1 a.m. Music by Jerry Collins. Reservations by March 23; open to public. Admission: \$8.50 per person.

Prophet Headliner Coming for Lecture

Jeane L. Dixon, known to many through Ruth Montgomery's book "The Gift of Prophecy," will speak at the Oak Ridge High School Auditorium Friday, March 19, at 8 p.m.

Mrs. Dixon was the 1969 recipient of the "Woman of the World" award as "an outstanding woman working unselfishly with children." She is the author of a daily column carried by 300 newspapers in the United States and abroad.

The Oak Ridge branch of the American Association of University Women is sponsoring the event. Proceeds from the talk will be divided between local educational projects of the AAUW and the Children to Children, Inc. Foundation, a non-profit organization which is building the Jeane L. Dixon Medical Center in Washington, D.C. The hospital will be dedicated to children and particularly concerned with developing cures and preventing diseases.

Tickets are to cost \$3 and can be obtained from Mrs. O. C. Yonts, 839 West Outer Drive. Co-chairman of the project are Jean Spencer (Mrs. W. F., ORNL); Joyce Tennery (Mrs. V. J., ORNL); and Cyndy Holcomb (Mrs. B. D., ORGDP).