The WINGFOOT CLAN

Goodyear Atomic Corporation — A Subsidiary of The Goodyear Tire & Rubber Company

Volume 21 | Piketon, Ohio, July, 1974 | Number 7

AEC Commissioner Speaks Out

Nuclear Power And The Public

EDITOR'S NOTE: Following are highlights of a speech delivered recently by Commissioner William O. Doub of the U.S. Atomic Energy Commission.

Commissioner William O. Doub of the U. S. Atomic Energy Commission told the Association of Industrial Advertisers recently in Bal Harbour, Florida, that a lack of public confidence in nuclear power and government energy policy in general could pose a threat to the energy economy.

Commissioner Doub related the lack of public confidence to government and industry's failure to explain adequately and candidly nuclear power to the public. He stated:

"For a public that now must make some very hard and crucial choices about nuclear power, the misjudgements made and the inappropriate actions taken to explain nuclear power to society, although quite unintentional, approximate shortcomings that could jeopardize any hopes for achieving energy self-sufficiency in this century."

Noting that other technological innovations, such as the airplane, have overcome initial skepticism and been accepted, despite their obvious risks, Commissioner Doub speculated about why nuclear power has not yet achieved complete public acceptance. He cited early secrecy, an overselling of nuclear power, a lack of complete government candor about nuclear energy, a too frequent rate of shut-downs of nuclear plants, and the AEC's apparent loss of full creditability as an impartial regulator of nuclear power as factors that contributed to a lessening of public confidence.

Commissioner Doub conceded that the AEC must do a better job and pointed to recent steps the Commission has taken to regain creditability.

"Beyond increasing the availability of information and earnestly striving for candor, the AEC has taken steps to involve the public earlier and more directly in its regulatory proceedings, to eliminate or ease bureaucratic barriers, and to make opportunities for more meaningful public participation in the AEC decision-making process."

He also noted that the "Legislation, which is now before Congress to create an independent agency to regulate the use of nuclear energy, should remove the illusion of compromise. But once an independent regulatory commission becomes a reality it must act to eliminate any vestiges of compromise."

Commissioner Doub urged nuclear critics to stick to the facts and noted that labeling every incident at a nuclear plant an "accident" is similar to calling a flat tire an accident; this type of innuendo is not in the interest of the public. Commissioner Doub stated, "Critics such as Ralph Nader, when they take a responsible approach, play an important and necessary role as ombudsmen in the public interest — people like Mr. Nader help keep everybody on their toes, for in Mr. Nader's case, he admittedly has the trust and attention of a very large segment of the public. Thus, it becomes very perilous to the welfare of our nation when such a molder of public opinion becomes victimized by bad advice or distorted facts to the extent that he would launch a campaign to stop nuclear power at all costs."

Turning to the performance of the nuclear industry, Commissioner Doub called for improved quality assurance and greater standardization which will lead to increased reliability and in turn to a higher degree of public confidence.

In conclusion, Commissioner Doub stated:

"If further erosion of public acceptance of nuclear power or of government energy policies in general continues, if rational discussion gives way to emotional argument, if we continue to rely on a crisis resolution of energy policy, then this nation faces a crisis in confidence that may very well not only shatter any hopes for energy self-sufficiency, but plunge us into a situation that will make us recall the latest fuel shortage with a sense of nostalgia."

UF RECOGNITION — The employes and management of Goodyear Atomic were recently honored by the Ross County United Fund for their generous support in the 1973 Campaign. Jeanne Nunn (D-224) displays the Citation for Community Service which was presented at the annual meeting of the Ross County United Fund last month.

Science Program Still Popular

With the close of the 1973-74 school year, GAT science demonstration teams concluded another successful year in presenting science demonstration programs to local area schools. This marked the eleventh consecutive year for this popular program.

This year an effort was made to concentrate on the smaller schools and, as a result, participation figures were somewhat lower than for the previous two years. Eight schools were visited with 1405 students attending the 11 presentations.

Jim Armstrong, Materials Sampling and Testing, coordinated the program by scheduling and making the necessary arrangements with both the schools and GAT team members.

As in prior years, the program was well received with many letters of appreciation received from both teachers and students.

Johnny Rutherford points out the championship trophy spot where he'll be placed as winner of the 1974 Indianapolis 500. The Memorial Day weekend race marked the third consecutive year in which the winner rode on Goodyear tires. The next five finishers also were on the company's Blue Streak tires as well as Goodyear Powerhouse batteries. Since the company returned to the "500" in 1965, Goodyear racing tires have been on the winning car five times in the last eight races.

AEC Announces Consolidation

The Atomic Energy Commission has announced consolidation of its Division of Security and its Division of Nuclear Materials Security into a Division of Safeguards and Security.

In making the announcement, John A. Erlewine, AEC General Manager, said: "The growing magnitude of our program requirements to protect special nuclear material in its many forms and diverse locations requires a focal point of management emphasis on all aspects of the problem.

"The new division is the focal point for safeguarding special nuclear material that is produced and utilized by the AEC and its contractors in support of the Commission's production and research and development programs."

The new division, reporting to the Assistant General Manager for National Security, is responsible for all aspects of the AEC's programs dealing with the protection of special nuclear material against diversion and unauthorized use within its facilities and in transportation.

The reorganization affects only the Commission's operational activities; the Director of Regulations organization for safeguarding nuclear material held by licensees (the nuclear industry) is not involved. The new division fully integrates the safeguards and security functions.

The new division contains both management and technical specialists devoted to all aspects of materials security within plants and transportation. Increased emphasis is being placed on systems analysis and standards setting to evaluate the risks, costs, and benefits of present and future systems for safeguarding nuclear materials.

The Division of Safeguards and Security serves as the principal organizational element to administer all research and development for physical security and nuclear materials control and equipment. This technological capability will result in the development of techniques and equipment having applications for protecting special nuclear materials both within the government and in the private sector.

In this respect, the General Manager points out that the Commission's national laboratories have been utilized for the development of physical protection systems for the safety and security of highly classified materials. This technology can be readily applied to improving the protection of special nuclear materials in other areas.

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GOODYEAR ATOMIC CORPORATION
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ACTING UNDER U S ATOMIC ENERGY COMMISSION CONTRACT AT-(33-2) 1

Published monthly in the interest of employes of the
Goodyear Atomic Corporation
An Equal Opportunity Employer

Industrial Relations Division, Goodyear Atomic Corporation
P. O. Box 628, Piketon, Ohio 45661
Editor . . A.L. Williamson Telephone . . 289-2331

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People On The Move

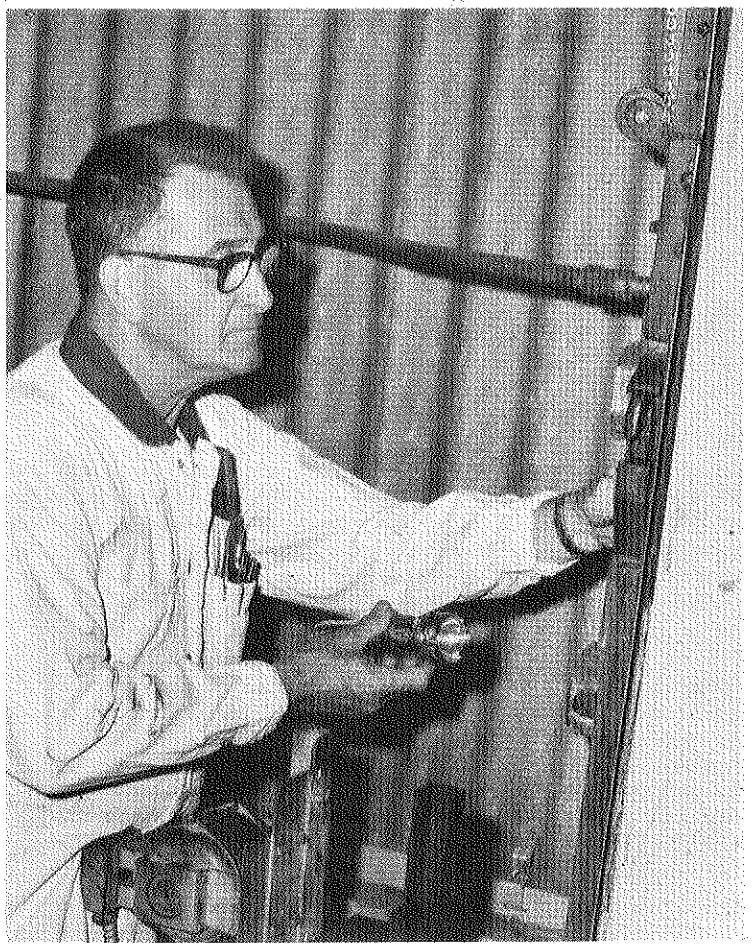
Zeek Knauff Sparks

Promotions and transfers in three divisions resulted in several changes in personnel assignments.

Robert M. Zeek has assumed responsibilities on the staff of the manager, production division. This will include special production assignments as well as various plant and/or interplant activities.

Charlie S. Knauff transferred to the staff of the manager, technical division, where he will perform special assignments.

Marion T. Sparks was advanced to general foreman, maintenance. In his new assignment he will be responsible for directing the activities of converter assembling and testing in the X-700 Converter Shop.



Equipment inspector Ernie Dardenne inspects hoistway door locking mechanism on elevator in X-326 Building. Dardenne recently was awarded a Certificate of Competency by the State of Ohio as a qualified inspector of power elevators.

Through New Recovery Program

Scrap Tires To Yield Products — Oil, Carbon Black, Steel

Eight million worn-out tires — normally destined for the nation's growing scrap heap — have the potential of yielding 15 million gallons of oil, 73 million pounds of carbon black and 2 million pounds of steel.

These impressive figures were revealed by Charles J. Pilliod, Jr., chairman of Goodyear, and H. I. Koolsbergen, chairman of the Oil Shale Corporation (TOSCO), as they announced plans for an extensive program to apply TOSCO oil shale recovery technology to the recovery of energy and reusable materials from scrap tires.

"We estimate that one full-scale scrap tire recovery plant, if proven feasible, could annually recover enough petrochemicals and other materials from 8 million scrap tires to build an additional 2 million tires a year — including the energy necessary to produce them," Pilliod said. "In addition, our scientists believe that the recycled oil could be further refined for a wide range of uses from manufacturing additional rubber products to heating homes. It also could be processed and used as a component in no-lead gasoline."

The new Goodyear-TOSCO program involves further demonstration of the scrap tire processing technology, which TOSCO began developing in 1971. The TOSCO process has been tested in 25-ton-per-day pilot plant operations and is said to be ready for economic feasibility evaluations preparatory to commercialization.

Koolsbergen said that by using this process, ground-up tires will be heated to high temperatures by direct contact with hot ceramic pellets — a method called pyrolysis (chemical decomposition by heat) — and refined to yield the basic raw materials.

Goodyear and TOSCO will compile data on the cost of building and operating the scrap tire system and evaluate the quality of the recovered products in the first phase of the program, which is expected to lead to commercialization, the two executives said. Goodyear also will supply ground-up waste tires to TOSCO's Rocky Flats Research Center located near Golden, Colo.

Change In Law

A major change in Ohio's Workmen's Compensation law could affect working mothers and other employes who hire casual domestic workers.

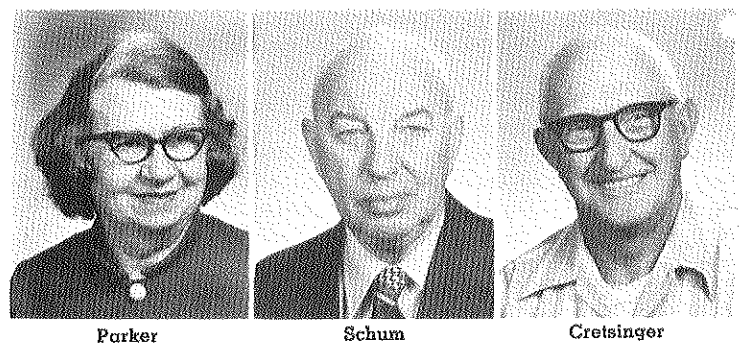
The change, effective July 1, involves the extension of Workmen's Compensation coverage for the first time to household workers such as maids, babysitters, gardeners and others who earn as much as $50 during each quarter of the year. The quarter means January through March, April through June, July through September and October through December. The new law applies to domestic or casual workers regardless of their age.

Previously an employer was required to carry Workmen's Compensation only if he had three or more employes.

Under the revised law an employer who does not carry Workmen's Compensation Insurance could suffer financial loss because a worker who is injured may sue his employer and recover proven damages.

Information about premium costs and other details of the new law can be obtained at the Portsmouth district office of Bureau of Workmen's Compensation, 724 Findlay Street (45662) or by calling 353-2187.

Three Employes Retire



Parker Schum Cretsinger

Three employes recently retired under "normal retirement" provisions.

Leila Parker, mechanical development, retired June 1. Her service dated back to 1966.

Larry Schum, operations analysis and planning, retired July 1. Larry was a veteran employe with over 20 years service.

Also retiring July 1 was Cecil Cretsinger, converter fabrication and assembly. Cecil had over 17 years service with GAT.

World's Smallest Tire Plant

The world's smallest tire plant builds tires for the world's largest tire and rubber company — but not one of them ever is used on an automobile.

In a small basement complex in Akron employes of GT&R's Research Division turn out miniature tires — only 16 inches high and weighing less than 10 pounds — that are used to test the tires of tomorrow.

The researchers build them at a fraction of what full-sized test tires would cost.

"Several miniatures can be produced by our mini-factory with the same amount of energy and materials needed to produce a single production-line model," says William T. Overby of the engineering research department.

"Our test equipment basically is the same as that used for the large tires, only smaller," Overby says, "and economically yields data on the feasibility of new tire designs, materials and constructions."

Overby emphasizes, however, that the tests on miniatures are no substitute for Goodyear's regular tire testing. Rather, he says, the value of the miniature tires is as a preliminary means of evaluating new tire design concepts.

In Memoriam

Jesse T. Baggette, Jr. passed away on June 16 at Mercy Hospital in Portsmouth. Jesse came with GAT in March, 1973, and was employed in the Converter Fabrication and Assembly Department at the time of his death.

Graduate Corner

Carol Beaboui
Ohio State
R. W. Beabout
D-760

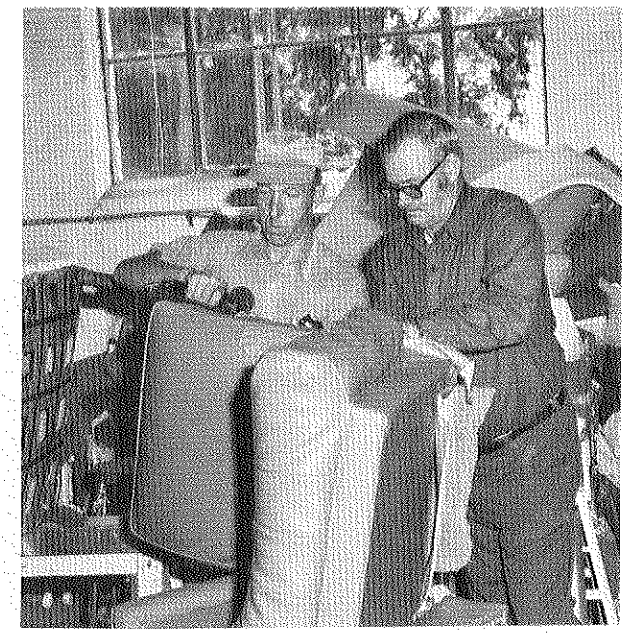
Chip Brown
Portsmouth East
W. R. Brown
D-533

Jeffrey C. Cottle
Portsmouth East
C. L. Cottle
D-241

Janet K. Murnahan
Notre Dame
B. Murnahan Jr.
D-722

REVIEWS TEST RESULTS — Anthony Regen, Chillicothe Division Director, reviews trainee's record following work evaluation period.

TEXTILES which can't be sold over the counter are washed and sterilized and made into wiping cloths. Betty Christman operates wiper cutter machine in preparing material for wiper cloths.



UPHOLSTERING — Carl Woods (l) staples material as Roger Heshiser (r) holds it in place. They are covering the seat of a chair.

All-In-One Dollars At Work

EDITOR'S NOTE: This is the second of a series of Clan articles in which a UF agency will be featured. This month we are saluting the work of Goodwill Industries, an agency of the Ross County United Fund.

The Chillicothe Division is a part of Goodwill Industries of Central Ohio with headquarters in Columbus. The facilities of the Chillicothe Division include a workshop in Chillicothe and retail stores in Chillicothe and Jackson. An eight county area is serviced as far as the collection of materials is concerned.

Goodwill Industries is primarily a rehabilitation facility where the handicapped are trained until they are able to go out in competitive employment, where they are placed with private employers. Last year 21 handicapped persons were placed in competitive employment by this Division, a gain of 8 over the previous year.

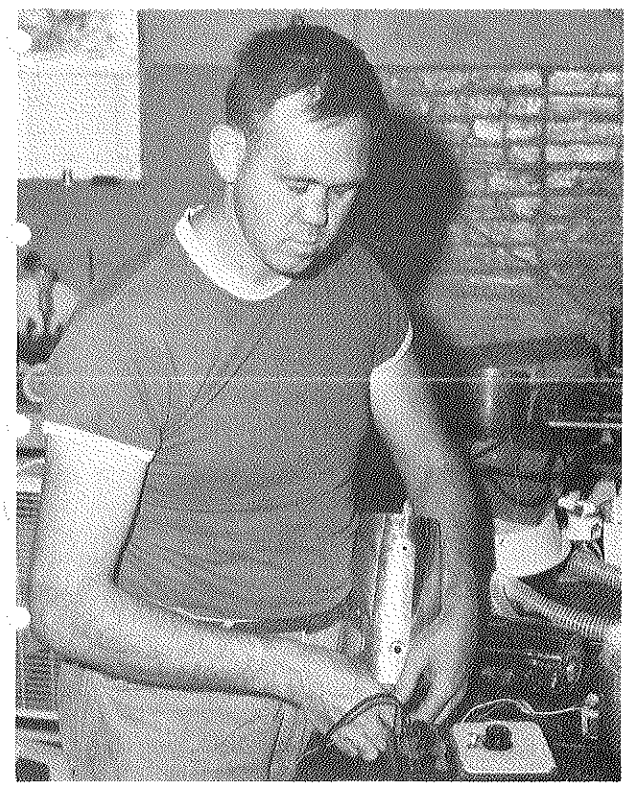
United Fund monies go toward the cost of supporting the rehabilitation facility which involves work evaluation and work adjustment periods for the clients referred for training.

Referring agencies include the Bureau of Vocational Rehabilitation, State of Ohio, Bureau of Service for the Blind, Chillicothe Veterans Administration Hospital and others.

The work evaluation period lasts for one week during which time the clients are tested (manual and written tests) to determine their capabilities. A work adjustment period follows when they are placed in various occupations within the facility to see what work they are able to perform with further training.

Typical of the handicapped being trained are the blind, amputees, and persons with cerebral palsy, arthritis, and heart disease.

There are 25 work stations including retail outlets where handicapped persons can receive training. Some of the occupations included for training purposes are wiper cutting, textiles, small and major appliance repair, smallwares, shoe repair, furniture repair and upholstering. The training period for referred clients runs anywhere from 4 to 52 weeks. On the average, a handicapped person spends two years with Goodwill before going out on his/her own.



ICHARD HOPPER, who is blind, tests an electric percolator to determine if there is continuity of current. A Braille tester is being used.

WORK EVALUATION — Stephen McDougle performs test on Purdue Pegboard to determine manual dexterity.

MIP Progress Report

This is the latest report covering six months' operation of the Monthly Investment Plan through which employes may purchase Goodyear common shares. The plan is entirely voluntary and Goodyear pays all brokerage commissions. Information on the plan may be obtained from Employment or any office of Merrill Lynch, Pierce, Fenner & Smith, Inc.

	Purchase Price	Number Shares	Number Participants
November, 1973	16.060	10,878	4,361
December, 1973	13.954	12,332	4,325
January, 1974	16.237	10,512	4,278
February, 1974	16.763	10,377	4,325
March, 1974	17.544	9,761	4,323
April, 1974	17.005	9,912	4,365

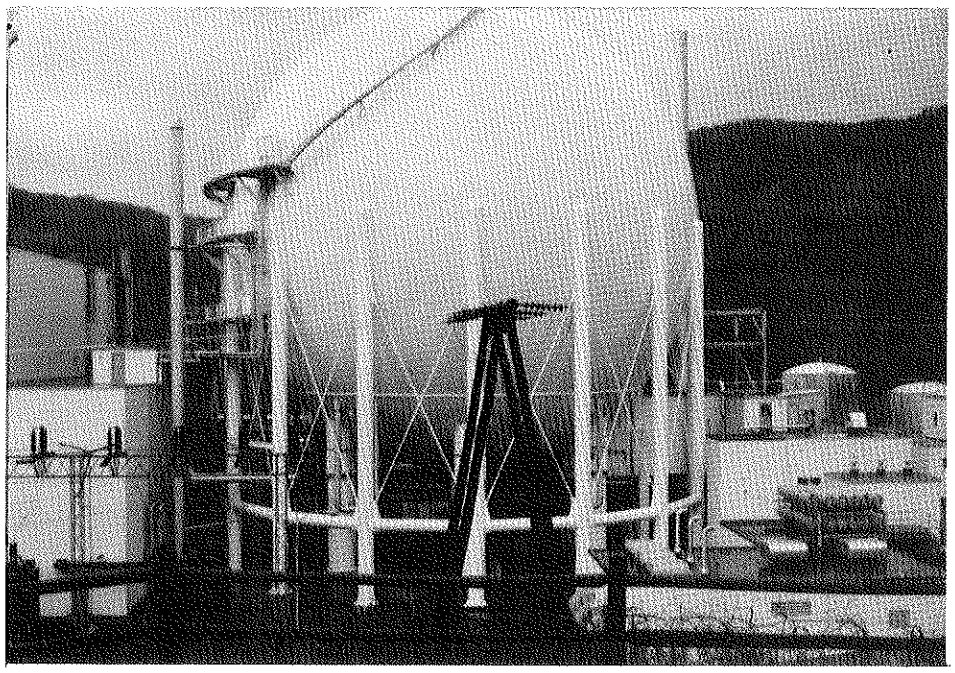
Since the start of the plan in September, 1967, and after adjusting for the two-for-one stock split on April 15, 1969, a total of 492,042 shares have been purchased by employes at an average cost of $26.85 per share.

The purchase of stock is spread over many days in a month. Thus, the price shown above is the *average* price of all purchases made during that month.

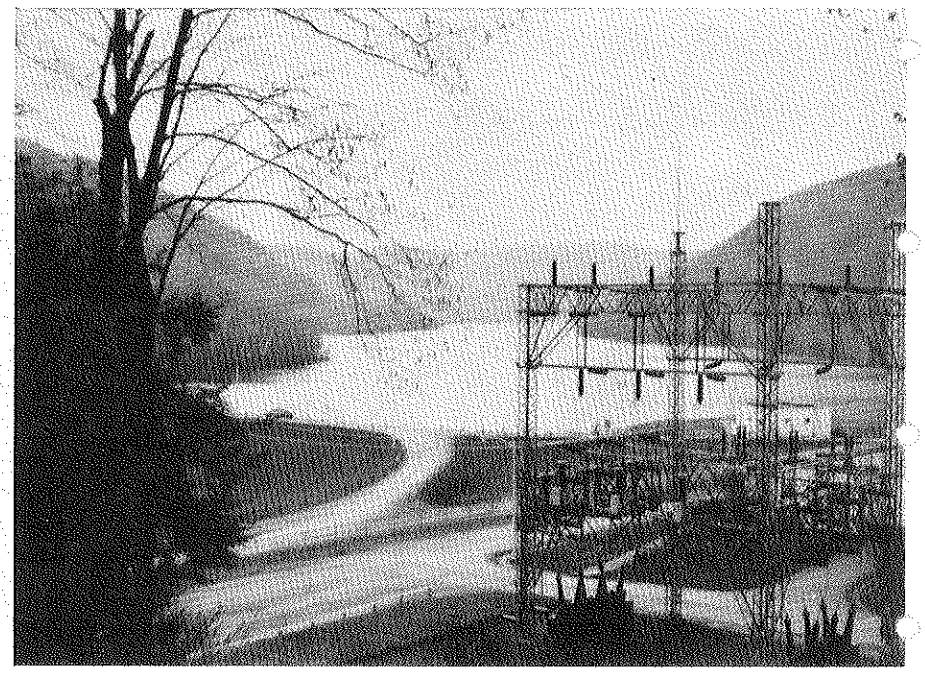
Dividend Declared

The Board of Directors of the Atomic Employes Credit Union recently approved a 6% annual dividend for the 6-month period ending May 31, 1974. This dividend has been posted to all eligible share accounts and amounted to a total of $76,087.97. Dividends were paid only on even $5.00 shares that had been on deposit one or more months as of May 31.

Statements of each account are being prepared and will be mailed as soon as possible after June payroll deductions are posted. These statements will reflect the amount of dividend added to each account. There will be a star on the line with the dividend posting.



A view of steel vapor container which houses the reactor core, coolant pump, and other equipment.



From the Public Information Center at the Rowe plant one views the tranquil Deerfield River.

A Visit To A Nuclear Power Reactor

EDITOR'S NOTE: Following a recent tour of a nuclear power generating station in New England, your Editor brings to Clan readers a first hand report on the operation of such a facility. Since our future is tied to providing the fuel for operation of nuclear power reactors, the report which follows should be of interest.

Nestled in the remote, picturesque Berkshires, the Rowe, Massachusetts nuclear power station, operated by the Yankee Atomic Electric Company, has been functioning successfully for more than ten years. In their quiet way, citizens of Rowe and nearby communities have been paving the way for what millions of other Americans will probably be experiencing soon.

The Rowe power station is an impressive sight with its 125-foot-tall steel sphere and connecting buildings from which extend transmission lines that serve ten New England utilities. The location was influenced by the availability of cooling water from the Deerfield River, existing power transmission facilities, adequate land at a reasonable price, railroad transportation, and a favorable public attitude.

Essentially, a nuclear power plant is just another steam power plant that uses another type of fuel — uranium. If an appropriate amount of fuel is gathered in a reactor under controlled conditions, heat is provided. This heat, in turn, makes steam that drives a generator and produces electricity.

The Rowe facility went into operation in November, 1960. It utilizes a pressurized water reactor, similar in principle to a submarine reactor. Slightly enriched uranium (4-5% assay) is used as the fuel and ordinary water is employed for cooling purposes. The Rowe unit is presently operating at a 185,000 kilowatt level. GAT has provided essentially all of the nuclear material for the Rowe reactor since it went critical in 1960.

The fuel in the Rowe reactor is in the form of small pellets of an oxide of uranium, called UO_2. The core of the reactor contains over 3,400,000 of these pellets.

The pellets are contained in stainless steel tubes, 150 to each tube. There are more than 23,000 of the fuel tubes or rods, each nearly eight feet long — making a total of almost 37 miles of tubing within the reactor core.

The tubes are sealed at both ends and brazed into bundles or subassemblies. Nine of these subassemblies are assembled into larger bundles which are called fuel element assemblies. The reactor core is made up of 76 such units, arranged to approximate a cylinder, eight feet high and six feet in diameter.

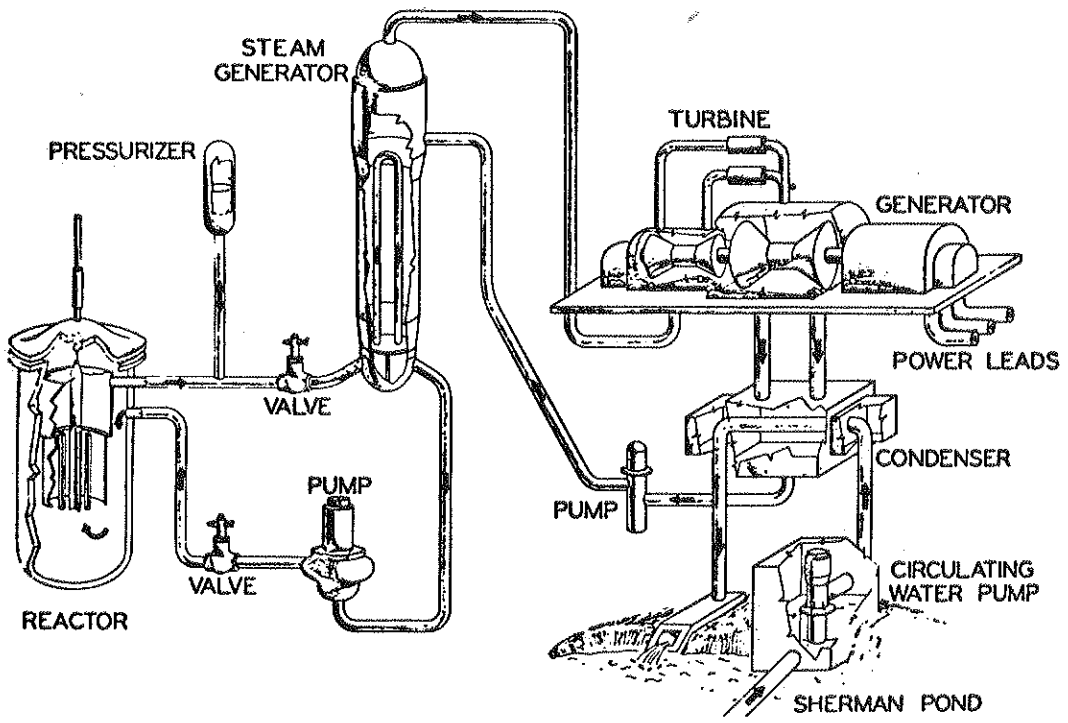
An essential part of the reactor core is the 24 control rods which move up and down between the assemblies to control the nuclear reaction and, therefore, the heat level.

The life of a fuel assembly within a reactor core is about three years. The core is refueled every 12 to 18 months with about one-half of the assemblies replaced each time. The other half is moved from the outside periphery to the center of the reactor.

The actual refueling operation takes five days and nights but the reactor shutdown is normally from six to eight weeks to allow for preventive maintenance.

The Yankee Electric plant at Rowe, Massachusetts has lived up to all expectations as the New England forerunner of an entirely new source of energy and power.

SIMPLIFIED DIAGRAM OF YANKEE POWER STATION



The uranium fuel in the reactor generates heat which keeps the water which flows through the reactor at a temperature of about 500°F. Because this water is under a pressure of 2,000 pounds per square inch, it does not boil. In the steam generator, heat from water in this high pressure system is transferred to water which surrounds the "U" shaped pipes. The pressure in this region is only about 500 pounds per square inch, so that the water outside the pipes boils, creating steam which is used in the turbine.

Steam from the steam generator goes first into a small diameter turbine (the high pressure turbine) and then into a large diameter turbine (low pressure turbine). This type of design gives the greatest useful power output from the steam, and also allows for removal of moisture in the form of small drops between the high pressure and the low pressure sections.

The river water shown in the diagram is used to extract heat from the steam after it is passed through the turbine. This causes the steam to condense back into water so that it may be pumped into the steam generator.

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