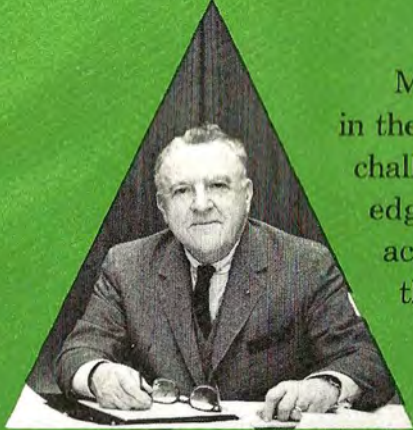




BROOKWOOD NUCLEAR POWER PLANT

ROCHESTER GAS AND ELECTRIC CORPORATION



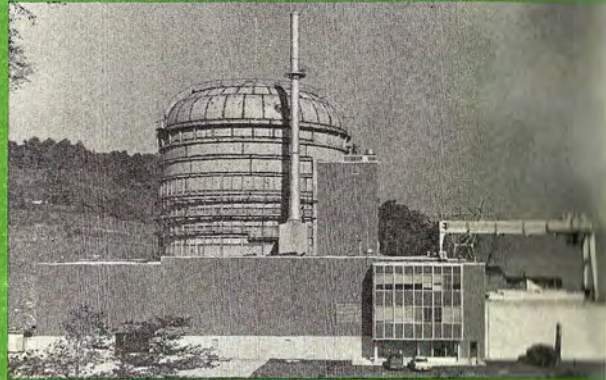
Making the atom work successfully in the production of electrical energy is a challenge to our best technical knowledge. This responsibility we gladly accept for the benefit of the people of the Genesee Valley.

A handwritten signature in dark ink, appearing to read "R. E. Ginna". The signature is fluid and cursive.

ROBERT E. GINNA
Chairman of the Board



PRDC-ENRICO FERMI



HTRDA-PEACH BOTTOM



ESADA-VALLLECITO

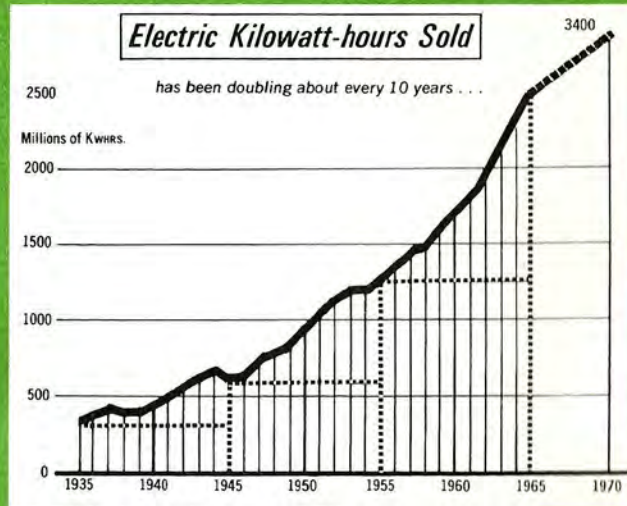


OUR ROLE IN NUCLEAR POWER DEVELOPMENT

Brookwood represents a major step forward into the Nuclear Age for the Rochester Gas and Electric Corporation. But this exciting plant is not the beginning of RG&E's nuclear activities, for the Company's management and engineers have long been active in the nuclear field. In fact they have been among the pioneers in the utility industry in pushing forward the frontiers of nuclear knowledge in cooperation with the U.S. Atomic Energy Commission.

As early as 1952, RG&E in association with a number of utilities and industrial organizations was engaged in a study of the practicability of using nuclear energy to generate electricity. This group later became known as Atomic Power Development Associates. Following passage of the Atomic Energy Act of 1954, which made it possible for industry to build, own, and operate nuclear facilities, RG&E immediately accepted the technical challenge of developing this new source of energy.

It was one of the early members of the Power Reactor Development Company, a non-profit corporation which owns and operates the nuclear portion of the Enrico Fermi Fast Breeder Reactor at Monroe, Michigan. It was a leader in forming High Temperature Reactor Development Associates, a non-profit group of 53 utilities that has constructed a High Temperature Gas-Cooled Reactor at Peach Bottom, Pennsylvania, with the assistance of the Atomic Energy Commission. Mr. Robert E. Ginna, Board Chairman of RG&E, is President of HTRDA. The Company is also a member of Empire State Atomic Development Associates, a non-profit group composed of the seven major New York State utilities, that is sponsoring research and development in the nuclear power field. These are just examples of the many nuclear research and development activities which RG&E has supported.



THE NEED FOR POWER

An abundant supply of electricity is available to meet the needs of today, but new power-producing facilities will be required to meet the electric demands of tomorrow. For electric load growth in the Rochester area has been doubling every eight to ten years, and this trend

FACTS ABOUT BROOKWOOD

is expected to continue. To meet the rapidly growing electric requirements of its customers, RG&E decided in 1965 to build a new electric power generating station.

WHY NUCLEAR

Once the decision had been made to build a new generating plant, the next step was to determine the most economic plant that could be built on the RG&E system. An exhaustive study of the comparative costs of conventional plants using fossil fuel and nuclear plants was made by the Company's engineers and consultants. The results clearly showed that a nuclear power plant would have a significant advantage over a conventional plant. And so early in 1969 a nuclear power station will help assure that an abundant supply of electricity will be available to meet the electric needs of RG&E's residential, commercial, industrial and other customers.

THE PLANT

Brookwood will have a capacity of 450,000 kilowatts, and will be the largest and most economic plant on the RG&E system. It will generate enough power to supply the electrical needs of a city of more than half a million people.

CONTRACTOR

Westinghouse Electric Corporation, a world leader in the development and manufacture of nuclear reactors, is the prime contractor for the plant. Gilbert Associates is the consultant architect and design engineer, and Bechtel Corporation will construct the plant.

COST

The entire project, including expenditures for environmental improvements, the cooling water intake and outlet facility, transmission lines and related equipment, will cost over seventy-four million dollars. It will be financed entirely by RG&E and will not call for any Federal assistance.

LICENSING

Before a nuclear power plant can be built, a construction permit must first be obtained from the Atomic Energy Commission. To obtain such a permit the applicant must establish his technical and financial qualifications and prove to the AEC that the plant can be built and operated safely. RG&E's application for a construction permit for Brookwood was filed with the AEC in October of 1965 and approved in April of 1966. Once Brookwood has been built, an operating license must be obtained from the AEC before it can be operated. Also, Brookwood operators must pass a comprehensive examination on the theoretical and practical aspects of reactor technology, and be licensed by the AEC.

SCHEDULE

Construction started in April of 1966, and the plant is scheduled to be in commercial operation early in 1969.

REACTOR SYSTEM

The heart of the plant will be a pressurized water reactor system. This type of reactor system has a proven record of performance in a number of nuclear plants throughout the world.

CONTAINMENT STRUCTURE

The reactor system will be enclosed in a reinforced concrete cylindrical structure with a flat base and a hemispherical dome. The structure will be approximately 105 feet in diameter and 145 feet high. The entire inside surface will be lined with $\frac{3}{8}$ inch steel.

REACTOR FUEL

The reactor will be fueled with slightly enriched Uranium in pellet form, each pellet being approximately $\frac{3}{8}$ inch in diameter and $\frac{1}{4}$ inch long. These pellets will be placed in 12-foot-long Zircaloy steel tubes which are called fuel rods. The rods in turn will be assembled into square bundles known as "fuel assemblies." The reactor core will contain 121 fuel assemblies, each containing 179 fuel rods, or a total of 21,659 rods. Thirty-two rod cluster control assemblies, each containing sixteen absorber rods, will be used to increase or decrease the rate of fission, and therefore, the amount of heat produced by the nuclear fuel in the reactor.

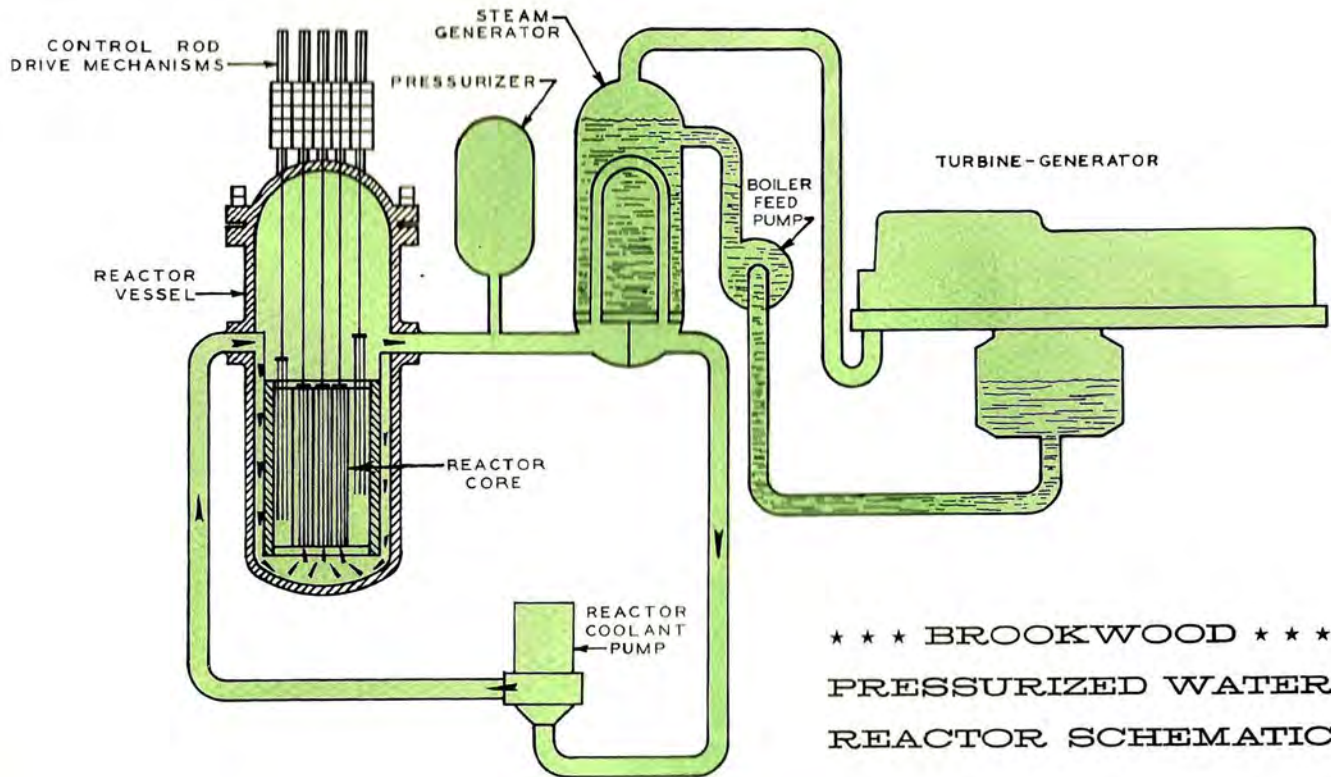
REACTOR VESSEL

The nuclear fuel will be enclosed in a cylindrical vessel with a hemispherical bottom and top head. This vessel will be made of carbon steel with all internal surfaces clad with stainless steel, and will be 38 feet high and 12 feet in diameter. It will weigh approximately 220 tons, and is being manufactured by Babcock and Wilcox, Inc.

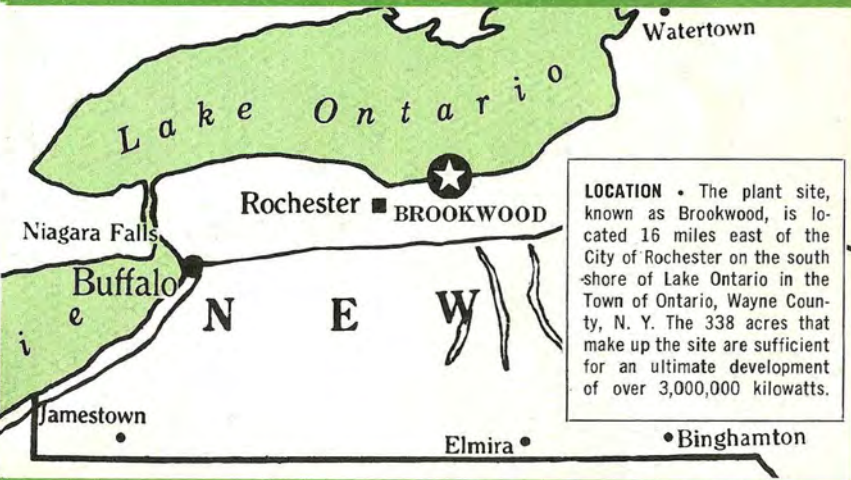


HOW
NUCLEAR ENERGY
WILL PRODUCE
ELECTRICITY
AT BROOKWOOD

Pressurized water flows up through the *reactor core* to remove the heat generated by nuclear fission. The fission process is regulated by *control rods*, and the water is kept under constant pressure by a *pressurizer*. The heated water is pumped to a *steam generator* where it passes through the U-shaped tubes of a heat exchanger. Cooler water surrounding the tubes absorbs the heat from the pressurized water and turns to steam. This steam is used to turn a *turbine-generator* to produce electricity. After passing through the turbine, the steam goes into a condenser. Here the steam is turned back into water which is then pumped back to the steam generator where the process of making steam starts all over again.



*** BROOKWOOD ***
 PRESSURIZED WATER
 REACTOR SCHEMATIC



WHAT NUCLEAR ENERGY MEANS

TO OUR CUSTOMERS

Brookwood will mean an economic and reliable source of additional electric power for the Rochester area. RG&E is proud of the fact that there has never been a shortage of power in the area it serves. Brookwood will give added assurance that an abundant supply of elec-

tric power will be available to meet the ever-growing needs of our customers.

OUR COMMUNITY

Every effort is being made to ensure that Brookwood will be a good neighbor. The modern design of the physical plant will be an aesthetically pleasing asset to the community. The plant grounds will be attractively landscaped and maintained. The clean and compact nature of nuclear fuel will eliminate the need for fossil fuel transportation, storage and handling facilities. The Science Information Center at the plant site will provide an educational facility for the whole community to share. In addition to exhibits on nuclear energy, educational films and slide-illustrated talks will be presented in the Center's auditorium for both technical and non-technical groups.

OUR COMPANY

Brookwood will be a major addition to the RG&E system. It will be the Company's largest and most economic electric generating station. Both its size and flexibility will place it in a prominent position in the New York State Electric Power Pool.

Rochester Gas and Electric Corporation