VOGTLE ELECTRIC GENERATING PLANT

Operated And Maintained By
Southern Nuclear
Plant Vogtle is Georgia’s second nuclear power plant. Like its predecessor, the Edwin I. Hatch Nuclear Plant near Baxley, Plant Vogtle is jointly owned by Georgia Power, Oglethorpe Power Corporation (power supplier to 39 of Georgia’s 42 consumer-owned electric membership corporations), the Municipal Electric Authority of Georgia (with 48 participants), and the city of Dalton. The plant is named after Alvin W. Vogtle Jr., retired chairman of the board of The Southern Company, the parent firm of Georgia Power.
Plant Vogtle’s 3,100-acre site along the Savannah River became the largest construction project ever undertaken in Georgia. At the peak of construction, almost 14,000 people - engineers, welders, concrete masons, electricians, mechanics, bookkeepers, truck drivers and construction personnel - worked to build Plant Vogtle. The combined total payroll for the plant’s construction was about $3.6 billion over the life of the project. Materials, supplies and equipment purchased in Georgia for the project totaled more than $300 million.

Plant Vogtle’s massive containment buildings - with four-foot-thick walls made of concrete and steel - house two 355-ton reactor vessels on huge concrete slabs. The twin cooling towers, mammoth structures that can be seen for miles, jut upward 548 feet from the surrounding landscape.

Like other electric generating plants, Vogtle also has gigantic turbines and generators, a computerized control room, a chemistry lab and high-voltage switchyards. Plant Vogtle now sends millions of kilowatts of electric power to destinations all across the state.

Georgia Power began planning Plant Vogtle in 1971. Construction was halted in 1974 soon after it began, primarily because of financing difficulties. Two of the four Vogtle units on the drawing board were cancelled and construction was restarted in 1977.

By this time, it was clear that electricity use was no longer growing at the same rate it had in the 1960s and early 1970s. Still, it was equally clear that the growth in demand for electricity had not stopped. Georgia’s peak demand - the maximum amount of electricity required by consumers during a specified period of time - continued to climb an average of 5 percent annually. It was obvious that Plant Vogtle would be needed to ensure an adequate supply of electricity in the decades to come.

A nuclear power plant, with its huge output, low operating costs, minimal pollution problems and inexpensive uranium fuel, continued to offer distinct advantages over coal- or oil-fired generating plants.
HOW A NUCLEAR POWER PLANT OPERATES

Electricity is produced at all power plants by spinning the shaft of a huge generator, in which coils of wire and magnetic fields interact to create electricity.

In most plants - thermal or steam-electric stations - this spinning is done by high-pressure steam fanning the propeller-like blades of a turbine connected to the generator shaft. Heat to boil water into steam at these plants is produced in either of two ways: by burning coal, oil or gas - the “fossil fuels” - in a furnace or by splitting certain atoms of uranium in a nuclear reactor. In a nuclear reactor, nothing is burned or exploded. Its fuel consists of many tons of ceramic pellets made from an oxide of uranium or other “fissionable” metal. The cylindrical pellets, each about the size of the end of your little finger, are carefully arranged in long vertical tubes within the reactor. Inserted throughout bundles of these fuel tubes are many “control rods.” These rods regulate a process that results in atoms invisibly flying apart, or fissioning. As the atomic pieces plow through the fuel pellets, they generate heat by a kind of friction - something like the heat you generate when you rub your hands together. Operation of the reactor is controlled by varying the number of rods withdrawn and the amount of their withdrawal.

QUALITY ASSURANCE

Plant Vogtle’s two units are pressurized water reactors made by the Westinghouse Electric Corporation and designed with the most up-to-date technology and safety features available. Because Plant Vogtle was completed after the Three Mile Island nuclear incident of March 1979, its builders incorporated numerous design changes and safety features mandated or recommended by the U.S. Nuclear Regulatory Commission as a result of the accident. A stringent quality assurance program ensured that every facet of the plant’s construction was checked, rechecked and documented throughout the building process.
HOW GEORGIA’S ELECTRICITY IS MADE

One-fifth of Georgia’s total electric generating capacity comes from nuclear power. Coal provides about 61 percent, hydro nearly 11 percent and nuclear - from plants Hatch and Vogtle - 20 percent. The other 8 percent is from gas- and oil-fired generation.

THE NUCLEAR ADVANTAGE

A single nuclear fuel pellet, about the size of a pencil eraser, provides enough heat to generate about 1,581 kilowatt-hours of electricity - as much as 3.55 barrels of oil or 1,780 pounds of coal.

ABOUT GEORGIA POWER...

Georgia Power has maintained a reputation as a reliable and efficient electric utility for more than 60 years. The company operates 33 coal, nuclear and hydro generating plants, which yield a combined capacity of more than 19 million kilowatts. Georgia Power’s system operating availability - or percent of time the unit is available for service, whether operated or not - is one of the highest in the nation, and its residential electricity rates consistently rank among the nation’s lowest.

Georgia Power is the largest of five operating subsidiaries of The Southern Company, one of the nation’s largest investor-owned electric utility holding companies. Extending throughout most of Georgia (including the area served by Savannah Electric and Power Company), northwest Florida, Alabama and southeastern Mississippi, the Southern electric system includes 251 generating units supplying electricity to some 11 million people throughout the Southeast.
ABOUT OGLETHORPE POWER CORPORATION...

Oglethorpe Power Corporation is the power supply cooperative providing electricity to 39 of Georgia’s 42 consumer-owned electric membership corporations (EMCs). These EMCs serve customers in 71 percent of the state’s land area.

Oglethorpe is the nation’s largest generation and transmission cooperative in terms of assets, annual kilowatt-hour sales and consumers served. Since its founding, Oglethorpe has invested more than $4.3 billion in generation and transmission facilities, including co-ownership in four major power plants.

PLANT VOGTLE DATA

<table>
<thead>
<tr>
<th>Ownership</th>
<th>Georgia Power (45.7%)</th>
<th>Oglethorpe Power Corporation (30.0%)</th>
<th>MEAG (22.7%)</th>
<th>City of Dalton (1.6%)</th>
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<tbody>
<tr>
<td>Location</td>
<td>Approximately 34 miles South of Augusta, Georgia, on the Savannah River near the city of Waynesboro, Georgia.</td>
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<tr>
<td>Unit Kilowatt Capacity</td>
<td>1,215,000</td>
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<td>Commercial Operation</td>
<td>1987</td>
<td>1989</td>
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<tr>
<td>Plant Site Area</td>
<td>3,150 acres (approximately)</td>
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<td>Approximate Cost</td>
<td>$8.87 billion (including financing costs)</td>
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<td>Employees</td>
<td>840</td>
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ABOUT MEAG…

The Municipal Electric Authority of Georgia (MEAG) was created by the 1975 Georgia General Assembly to provide a low-cost, dependable source of electric energy to its participants. The authority became the power supplier to 47 political entities on Feb. 7, 1977, and added a 48th participant - Oxford, in 1986.

MEAG’s primary power sources are the eight generating units it co-owns with three other utilities at four plants in Georgia. The authority also owns more than 1,100 miles of transmission lines and more than 28 substations, which are part of the state’s Integrated Transmission System. Since its inception, MEAG’s rates have been ranked among the lowest in the Southeast.

ABOUT THE CITY OF DALTON…

The city of Dalton is an incorporated municipality with a population of about 28,000 in northwestern Georgia. Dalton’s Board of Water, Light, and Sinking Fund Commissioners operates an electric distribution system serving the city’s 12.8 square miles plus certain adjacent portions of Whitfield County.

Between 1977 and 1980, Dalton contracted to purchase capacity ownership of approximately 120 megawatts in Georgia Power’s plants Hatch, Wansley, Scherer and Vogtle. The portion of Dalton’s electrical requirements not met by its owned capacity is supplied at wholesale rates by the Southeastern Power Administration and by Georgia Power.