

## History

# How the Vogtle Nuclear Expansion's Costs Escalated

The project to expand the two-unit Plant Vogtle nuclear power station in Georgia with two new AP1000 reactors has suffered debilitating delays and mounting costs.

The project is owned by four partners: Southern Co. subsidiary Georgia Power (45.7%), Oglethorpe Power Corp. (OPC, 30%), Municipal Electric Authority of Georgia (MEAG Power, 22.7%), and Dalton Utilities (1.6%).

Units 1 and 2 at Plant Vogtle, which is located about 25 miles south of Augusta, Georgia, consist of Westinghouse four-loop pressurized water reactors (PWRs) rated at 1,109 and 1,127 MW respectively. Unit 1 began commercial operation in 1987; Unit 2 followed in 1989. Original estimates for Vogtle reactors 1 and 2 were under \$1 billion each, but final costs skyrocketed to nearly \$9 billion.

**2006:** Southern Nuclear, a 1990-established subsidiary of Southern Co. and licensed operator of Plant Vogtle, begins developing the project. [In 2009, a Southern Co. official told \*POWER\*](#) that the expansion would meet rising demand for electricity: “Based on the statistical data from the Department of Energy [DOE], 40% of the U.S. population will be living in the southeastern U.S., and the state of Georgia alone is expected to grow by 4 million people, by 2030. Over the last 13 years, average residential consumption in Georgia rose approximately 16%. Over the next 15 years, electrical demand on the Georgia Power system is projected to grow 30%,” he said. The official also noted a key Southern Co. objective was to keep its power profile diversified. The company filed for an early site permit (ESP) application in August 2006.

**2008–2009:** NuStart Energy Development LLC (NuStart), a partnership of 10 power companies created in 2004 to obtain a combined construction and operating license (COL)—using a new streamlined licensing process—and to complete design engineering for the selected reactor technologies, helps Southern Nuclear submit its original and supplemental COL applications in

2008 and 2009.

**April 2008:** A consortium comprising CB&I Stone & Webster and Westinghouse, maker of the AP1000 reactors, signs engineering, procurement, and construction (EPC) contracts with the utility owners. The EPC agreements—the first of their kind signed for new U.S. nuclear plant construction in three decades—outlined a “guaranteed substantial completion date” of April 2016 and April 2017 for Vogtle Units 3 and 4, respectively. (The group signed similar deals with V.C. Summer plant owners for Units 2 and 3 at that site in South Carolina.) Significantly, the agreements subjected the consortium to a number of liquidated damages provisions, if it didn’t meet those deadlines.

**August 2008:** Southern Co. and utility partners apply to receive a federal loan guarantee. Total costs for the project are estimated at \$14.3 billion.

**March 2009:** Construction of the two AP1000 reactors, each 1.1 GW, is approved by the Georgia Public Service Commission (PSC). The PSC adopts a motion allowing Georgia Power to recover the cost of financing the plant during construction. Both entities will jointly develop mechanisms to provide shared risk protection to taxpayers from significant cost overruns. In addition, the Georgia Senate voted to allow the company to recover its financing costs during construction of the reactors, thereby saving customers about \$300 million over time. The PSC agreement set Georgia Power’s portion of the certified cost of the new units at nearly \$6.5 billion.

**August 2009:** The Nuclear Regulatory Commission (NRC) approves the ESP and limited work authorization (LWA) for the first-of-their-kind reactors.

**February 2010:** The DOE conditionally offers Southern Co. and partners a total \$8.33 billion in loan guarantees.

**June 2011:** A PSC-hired independent construction monitor testifies that the project is two months behind schedule. A few months later, it falls to five months behind schedule.

**February 2012:** [The NRC approves two COL licenses](#) for Southern Nuclear, the first licenses ever approved for a nuclear plant using the one-step licensing process.

**April 2012:** NRC inspectors report that the rebar in the basemat for Unit 3 has been improperly installed. The NRC finally approves a proposal to compensate for the faulty rebar in October 2012, but it puts the project six months behind schedule.

**November 2012:** Construction contractors Westinghouse and The Shaw Group (bought in 2012 by Chicago Bridge and Iron [CB&I]) file suit against the utility partners seeking \$900 million for construction design changes.

**December 2012:** The independent monitor reports that The Shaw Group “clearly lacked experience in the nuclear power industry and was not prepared for the rigor and attention to detail required to successfully manufacture nuclear components.” Between July 2012 and December 2012, the project contractors were forced to repair “welds on [reactor components] that were found to be the wrong type of weld.” The project is now a full year behind schedule.

**February 2013:** In a report to the PSC, Georgia Power requests approval for cost overruns totaling \$737 million—increasing initial cost estimates of \$14.3 billion to \$15.5 billion (an 8.4% increase).

**August 2013:** The independent monitor reports that the construction contractor has “not demonstrated the ability to fabricate high-quality CA20 submodules at its Lake Charles, La., facility that meet the design requirements at a rate necessary to support the project schedule.”

**February 2014:** The DOE finalizes \$6.5 billion of the loan guarantees for Georgia Power and OPC. The DOE issued the remaining \$1.8 billion to MEAG Power.

**October 2015:** [In a major shakeup of contractors involved in the Vogtle and V.C Summer projects](#), Westinghouse in October 2015 enters into an agreement with Fluor Corp., shifting the primary responsibility for construction to the global engineering firm.

**December 2015:** CB&I, which acquired the Stone and Webster nuclear construction business as part of its \$3 billion acquisition of The Shaw Group in 2012, sells the unit to Westinghouse—[even though it would incur a \\$1 billion loss from the transaction](#)—because it provided a “complete end to responsibility or liability” for delays plaguing the Westinghouse AP1000 units. Westinghouse becomes the sole construction contractor. The acquisition helps resolve the legal dispute about who is responsible for costs relating to design changes. The settlement requires project owners to pay \$754 million more for the reactors’ construction.

**March 2017:** Crippled by financial setbacks stemming from the half-built AP1000 reactor projects in Georgia and South Carolina, [Westinghouse files for bankruptcy protection](#).

**July 2017:** The bankruptcy court handling Westinghouse’s Chapter 11 filing approves a service agreement that makes Southern Nuclear the main contractor of the Vogtle project. The agreement to continue with the project hinges on additional approval from the DOE, which is partly financing the project through federal loan guarantees.

**August 2017:** The project partners file a recommendation to the PSC to continue construction of the project. They also announce they have contracted global engineering, construction, and project management firm Bechtel to manage daily construction efforts. Bechtel is to work under the direction of Southern Nuclear. Executives from Southern Co. earlier that month told investors [on a second-quarter earnings call that costs to build the two Vogtle AP1000 units could range](#)

between \$18.3 billion and \$19.8 billion. But on August 31, the company said that based on new assessments, the total estimated capital cost forecast for 100% of the project is about \$19 billion. According to Southern Co., the assessment suggests Unit 3 will be placed in service in November 2021, and Unit 4 in November 2022.

**September 2017:** The DOE provides the Vogtle owners \$3.7 billion more in loan guarantees, which includes another \$1.67 billion to Georgia Power, \$1.6 billion to OPC, and \$415 million to three subsidiaries of MEAG Power. The money is in addition to \$8.3 billion already guaranteed.

**December 21, 2017:** The PSC supports Georgia Power’s request to continue construction at Vogtle, despite PSC analysts earlier in the month saying the project is “no longer economic.” The project’s total cost now stands at roughly \$23 billion.

**August 2018:** Georgia Power announces that a capital and construction cost forecast for its share of the project have increased, based on a revised cost-to-complete estimate from Southern Nuclear. The project owners learn completion would require an additional \$2.3 billion. A lawsuit filed against MEAG Power by the City of Jacksonville, Florida, and JEA, the city’s municipal power utility, which is under contract to purchase power from the Vogtle expansion, says, “Current cost-to-completion estimates exceed \$27 billion, and that number is expected to increase.”

According to Georgia Power estimates, however, its share of the project only increases from \$7.3 billion to \$8.4 billion. Nonetheless, it chooses not to ask the PSC to approve cost increases “so soon after receiving the Georgia PSC’s approval of the capital forecast last year.” Current expectations are for Vogtle Unit 3 to come online in November 2021 and Unit 4 in November 2022.

—**Sonal Patel** is a POWER associate editor (@sonalcpatel, @POWERmagazine)

### SHARE this article

- # Georgia Power
- # OPC
- # Vogtle
- # Nuclear New Build
- # AP1000
- # Delays
- # Cost Overruns
- # Southern
- # JEA
- # Nuclear
- # MEAG



Sep 24, 2018  
by **Sonal Patel**

---

## ALSO IN THIS ISSUE

September 24, 2018

**Video** | Sep 24, 2018

### [VIDEO] Vogtle's Soaring Costs



by **Sonal Patel**

**Legal & Regulatory** | Sep 24, 2018

### Oglethorpe Agrees to Continue Vogtle Nuclear Project with Conditions; Final Vote Still to Come



by **Darrell Proctor**

#### FOLLOW US



---

*POWER* is at the forefront of the global power market, providing in-depth news and insight on the end-to-end electricity system and the ongoing energy transition. We strive to be the “go-to” resource for power professionals, offering a wealth of information on innovative business practices, sound safety measures, useful productivity enhancements, and much more.

Start your subscription

*POWER* is at the forefront of the global power market, providing in-depth news and insight on the end-to-end electricity system and the ongoing energy transition. We strive to be the “go-to” resource for power professionals, offering a wealth of information on innovative business practices, sound safety measures, useful productivity enhancements, and much more.

Subscribe Today!

#### FOLLOW US



---

*POWER* is at the forefront of the global power market, providing in-depth news and insight on the end-to-end electricity system and the ongoing energy transition. We strive to be the “go-to” resource for power professionals, offering a wealth of information on innovative business practices, sound safety measures, useful productivity enhancements, and much

more.

Start your subscription

**High Energy Efficiency Plateflow® Gasketed Plate and Frame Heat Exchangers**





**Experience POWER** Week brings stakeholders across the entire energy value chain (from generation to transmission, distribution, and supply) together in an intimate, solutions-driven environment to learn how to navigate the energy transition while keeping organizational goals on track. Access education focused on new and emerging trends like decarbonization, distributed energy resources, and the hydrogen economy, as well as traditional electric...

**Oct 29 – Oct 31, 2025**

Denver, CO

[Visit our site](#)