

Georgia Public Service Commission continues Vogtle reactor boondoggle – but the project is probably still doomed

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In December 2017, the Georgia Public Service Commission (PSC), which regulates electric and gas utilities in the south-eastern US state, voted to approve continued construction of two AP1000 reactors at Georgia Power's Plant Vogtle.¹ This decision was unsurprising because of the Commission's utter failure to question the project throughout its ten-year history, but the decision is all the more ridiculous and unfortunate for it.

The vote flies in the face of the evidence about the project's likelihood for continued failure, the state's energy needs, and the PSC staff's own recommendation to cancel the Vogtle reactors if Georgia Power did not agree to swallow US\$4 billion of the cost.²

The PSC's decision is far from the end of the story – more of a momentary reprieve that helps the industry save face, but not for long. The nuclear industry and its political backers simply could not afford to lose this round over Vogtle – and it is likely that significant outside pressure came to bear on the PSC, not only from Southern Co. and its army of lobbyists, lawyers, and government cronies. In fact, the Commission truncated its review of Vogtle, originally scheduled for a PSC vote in early 2018.

Time is only working against this project, with more information coming out each week regarding engineering and project planning failures, and subsequent coverups and collusion between utilities, Westinghouse, and regulators. Vogtle's twin project in South Carolina – the V.C. Summer 2 and 3 reactors – was cancelled in July 2017, leading to investigations of the project that have revealed years-long coverups³ leading to the project's failure and cancellation, resignations of utility executives⁴, utility reform legislation⁵,

and a vote to deny the South Carolina utility's recovery of costs and reducing customers' bill by 18%.⁶

The PSC's vote to 'damn the torpedoes, full speed ahead' exempts the Commission from having to consider even more damning evidence that may well emerge in the coming weeks.

That said, the fight is not over, by any means. There are more days of reckoning to come in the years ahead. In 2014, the US Department of Energy issued US\$6.5 billion taxpayer-guaranteed loans to Vogtle partners Georgia Power and Oglethorpe Power with \$0 credit subsidy fee (similar to a down payment, to reduce the government's financial risk).⁷ Additional loan guarantees of US\$1.8 billion were granted in 2015 (to project partner Municipal Electric Authority of Georgia – MEAG Power), as well as an offer by the US Department of Energy to provide another US\$3.7 billion in loan guarantees in September 2017 (to Georgia Power, Oglethorpe and MEAG).⁸

In 2014, it seemed to many like that would be the last straw – zero risk to Georgia Power for repaying a massive loan that covered all of Georgia Power's share of the project. But then the utility continued asking for rate hike after rate hike as the costs of Vogtle continued to go up⁹ ... and then Westinghouse had to buy out the project's main contractor¹⁰, CB&I, to settle a mountain of legal disputes¹¹ ... then Westinghouse went bankrupt¹² after taking over CB&I and inheriting all of the project's problems ... then the V.C. Summer reactors were canceled¹³ ... then the scandals and coverups¹⁴ of engineering problems started to emerge ... and here we are today.

The PSC should have concluded the sorry saga and canceled Vogtle. Just don't be too quick to judge the vote a failure for those calling for Georgia to ditch the reactors. Environmental and consumer activists have mounted a heroic fight to stop Vogtle, in the face of monstrous political odds. And the foundation is starting to crack: Georgia PSC staff for the first time admitted not only that the Vogtle project has problems but recommended it be canceled if the utility didn't agree to swallow US\$4 billion of the cost.¹⁵ Now, there is a division in the ranks of the utility establishment – making it as likely as not that the PSC's vote is really the beginning of the end for Vogtle.

Recently, I was looking over old status reports on reactor construction from the 1980s, and was reminded that Vogtle 1 and 2 were the single most expensive nuclear project in the first generation of nukes in the US – costing US\$8.8 billion by the time the reactors were both completed in 1989 (that would be about US\$18 billion today).¹⁶ Now, 30 years later, Southern Co. / Georgia Power is doubling down for a two-fer, with Vogtle 3 and 4 projected to cost US\$25 billion. There is no doubt that Southern Co. has recouped massive profits on Vogtle 1 and 2, through the utility's guaranteed return on investment, and is desperate for even greater profits if Vogtle 3 and 4 ever come online.

The truth is, Southern Co. is not qualified to manage a reactor construction project (it operates six reactors, but doesn't design or build them)¹⁷; its new contractor, Bechtel, isn't going to assume any of the cost or risk to finish the reactors¹⁸; and the rotten underbelly of technical and financial problems¹⁹ plaguing the Vogtle reactors' construction means, at the very least, years more

in delays and billions more in costs should be expected. And probably more train wrecks along the way.

Had the PSC cancelled the project in December – or forced Southern Co. to do so by holding the company accountable for the massive cost overruns – they could have saved a lot of face and pinned the blame on Westinghouse and their own ‘bad apples’. Going forward, it will be a different story: Southern Co. and the Georgia PSC now have no one else to blame. And they could find themselves facing the same cleaning of the house now taking place across the border in South Carolina.

The US ‘nuclear renaissance’ is dead

It’s hard to overestimate how desperate the US nuclear industry is to keep Vogtle construction going. Rightly or wrongly (more likely the latter), the industry views the completion of Vogtle as vital to its future.

Vogtle 3 and 4 are now the only new reactors being built in the US, more than a decade after the proclamation of a ‘Nuclear Renaissance’ which led to license applications for 30 new reactors between 2007 and 2010. While many of the licenses were approved, only V.C. Summer and Vogtle started construction – twin projects, both using Westinghouse’s AP1000 reactor design. By early 2017, they had bankrupted Westinghouse – the largest nuclear designer/builder in the world, responsible for about 50% of reactors around the globe. Westinghouse now says it will not

undertake any new reactor projects, nor will it complete Vogtle and V.C. Summer. And with V.C. Summer 2 and 3 cancelled, it means 28 of the 30 ‘Nuclear Renaissance’ reactors have now been formally abandoned or indefinitely shelved.

The story of V.C. Summer is one of stark opportunity costs, one that looms over Georgia PSC’s decision to charge ahead with Vogtle: South Carolina utilities wasted ten years and US\$9 billion on the project. Ratepayers are paying 18% of their monthly bills for two reactors that will never generate a single watt of electricity. They were still 5–10 years and US\$16 billion from completion – a completely rational basis for cancelling the project.

But had the utilities eschewed the nuclear option in 2007 and invested in energy efficiency and renewables, not only would they have reduced carbon emissions and electricity usage significantly by now, South Carolina families and businesses would have lower electric bills today and the state could have built a strong, sustainable clean energy economy and created thousands of jobs.

If Georgia had cancelled Vogtle in December, the nuclear industry’s case that it has a meaningful role to play in the country’s energy future, addressing climate change, or anything else would be self-evidently false. With at least two reactors being built that could operate into the 2060s, there’s at least a chance that the US will still have some nuclear-generated electricity in the late 21st Century.



The Vogtle #4 reactor under construction in Georgia.

But the industry can’t keep itself going on the backs of just two over-budget, hopelessly delayed, unnecessary reactors. Georgia doesn’t need Vogtle 3 and 4, and it never did. But by the time the reactors are completed – if ever – that will be the world’s most expensive novelty item. Of course, the farce will quickly turn to tragedy if those nuclear mementos were ever to start splitting atoms – generating nuclear waste that will be hazardous for hundreds of thousands of years, and a multi-billion dollar bill for decommissioning the reactors and cleaning up their radioactive mess.

With or without Vogtle 3 and 4, the only future nuclear has left in the US is keeping increasingly old, dangerous, uneconomical, and uncompetitive reactors going for as long as it can – while solar, wind, energy efficiency, storage, electric vehicles, smart appliances, microgrids, and other modern, more environmentally sustainable, consumer-friendly, and increasingly affordable energy options take off.

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