

ISSUE BRIEF

COSTLY INCOMPETENCE: The top four U.S. nuclear construction projects are already mired in costly problems

No wonder Duke Energy insists the NC public bear financial risks

The three nuclear construction projects underway in the U.S. are already suffering huge cost overruns, delays, and uncertainty about completion. A fourth project – though not yet licensed – has seen its price estimate quadruple.

All four projects are facing more cost overruns, which cannot presently be priced, due to: 1) changes caused by inherent technical complexities, evidenced by problems experienced to date, and 2) substantial changes required by the ongoing disaster in Fukushima, as emphasized by U.S. Nuclear Regulatory Commission Chairman Gregory Jaczko in February. Changes will especially relate to spent fuel storage, earthquake risks, and hazards posed by multiple reactors located on the same site.

These failures explain perfectly why Duke Energy CEO Jim Rogers insists he cannot attempt to build nuclear plants without North Carolina legislation that would force the public to absorb the risks of cost overruns and project abandonment – by pre-paying for plants via automatic annual rate hikes.

SOUTHERN COMPANY, GEORGIA: \$900 Million Cost Overrun – at the Outset

- *Plant Vogtle, the lead project in the years-delayed “renaissance,” racked up a \$900 million construction overrun shortly after the February licensing of two Westinghouse AP1000 units.ⁱ*
- *The problems include miscalculations for the foundation substrate and improper installation of steel rebar, and have idled dozens of workers so far. Timeframe for resolution is undetermined.ⁱⁱ*
- *Southern plans to request 32 license amendments, which often take a year each for NRC to evaluate. The list was quietly filed only six weeks after receiving a construction license.ⁱⁱⁱ*
- *Despite a two-year corrective effort for widespread problems with AP1000 module fabrication at Shaw's Louisiana facility, faulty modules were apparently shipped to Vogtle.^{iv}*
- *All these design changes occurring during construction are leading toward uncontrolled delays, costly rework and a cash cow for contractors and suppliers.*
- *Cost estimates of past and upcoming changes are being kept secret from the public.*

“Additional claims by the Consortium and Georgia Power (on behalf of the owners) are expected to arise throughout the construction of Vogtle 3 and 4.”

Georgia Power/Southern Company in a May 7 filing with the Securities and Exchange Commission

SCANA, SOUTH CAROLINA: \$560 Million in Cost Overruns – by the Licensing Date

- *The VC Summer plant, finally licensed in late March, is closely following Vogtle and its AP1000 problems, so expect dozens of license amendment requests, foundation and fabrication problems to emerge in periodic reporting.*

- Summer racked up \$262 million in pre-licensing overruns due to miscalculation of bedrock and unspecified changes.^v On May 15 SCANA quietly reported an additional \$300 million in cost overruns as of March 31st – in current dollars.^{vi}
- Estimated project completion has been delayed by approximately six months, until 2018.^{vii}
- Cost and reporting of changes are slow and spotty. On March 29 SCANA said it “will seek to update its capital cost schedule with [state regulators] ... “at the appropriate time.”^{viii}

TVA, TENNESSEE: \$2 Billion Cost Overrun

- At Watts Bar 2 construction problems led to TVA’s April 5th admission that completing this plant (where construction restarted in 2007 after being mothballed for two decades) will take three more years, with \$2 billion in cost overruns.^{ix}
- TVA has laid off hundreds of workers. Note: TVA chose to attempt completion of Watts Bar as a safer bet than trying to build new AP1000s.

PROGRESS ENERGY, FLORIDA: Four-fold Increase in Price Tag – Before Licensing

- The Levy County plant – two AP1000s – is now projected to cost up to \$24 billion, up from initial estimates of \$4-6 billion in 2006.^x
- Progress is the only utility that has published updated cost estimates for new AP1000s, which are at least a year from receiving a federal construction license at Levy.
- If the project continues, Progress Energy is set to reap \$3.5 billion in profits even if the plant never opens. Latest estimated completion: 2024 – 8 years past initial estimates.^{xi}
- A revolt by Florida consumers is widening, as rates rise annually due to Construction Work in Progress Legislation (CWIP) – 12 years before the reactors are set to open.

It is obvious that none of these projects would be advancing except that compliant state governments passed Construction Work in Progress legislation a few years ago, which shifts risks for the problems detailed above to customers.

DUKE ENERGY’S CONSTRUCTION FAILURE LOOMS LARGE

- Duke’s Lee nuclear project in South Carolina is next in line to begin construction – maybe. At \$13.1 billion excluding financing, the project is three times over Duke’s initial estimate. Financing charges could push the price tag well above \$20 billion.
- Moreover, Duke’s ongoing corruption scandal in Indiana – stemming from a billion-dollar cost overrun at the Edwardsport coal construction project, “**demonstrated that [Duke managers] were ill-equipped to manage the construction of a power plant of this scale,**” according to Indiana’s consumer counselor.^{xii}

No wonder Duke CEO Jim Rogers is adamant that he won’t gamble Duke’s money on nuclear construction; he prefers to gamble customers’ money.

The NC legislature gave Duke and Progress partial CWIP in 2007, allowing them to pre-charge customers for nuclear projects for years in advance.

But Rogers publicly insists that’s not enough. He won’t try to build nuclear plants without an automatic annual pass-through of rate hikes too – what we in North Carolina call *Super-CWIP* or the Annual Rate Hikes bill.

Will North Carolina’s public officials repeat the CWIP mistake that’s already creating economic heartburn across the Southeast?