

(RGGI). The plant’s owner, Energy Harbor, said RGGI would provide emissions credits “which will begin to help level the playing field for our carbon-free nuclear generators.”²⁵

Table I. Recent and Announced U.S. Commercial Reactor Shutdowns

Reactor	State	Shutdown Date	Net Summer Generating Capacity (Megawatts)	Start-Up Year	Major Factors Contributing to Shutdown
<i>Permanent Shutdowns Since 2012</i>					
Crystal River 3	Florida	February 2013	860	1977	Cost of major repairs to reactor containment
Kewaunee	Wisconsin	May 2013	566	1974	Operating losses
San Onofre 2	California	June 2013	1,070	1983	Cost of replacing new steam generators
San Onofre 3	California	June 2013	1,080	1984	Cost of replacing new steam generators
Vermont Yankee	Vermont	December 2014	620	1972	Operating losses
Fort Calhoun	Nebraska	October 2016	479	1973	Operating losses
Oyster Creek	New Jersey	September 2018	614	1969	Agreement with state to avoid building cooling towers
Pilgrim	Massachusetts	May 2019	685	1972	Operating losses, rising capital expenditures
Three Mile Island I	Pennsylvania	October 2019	803	1974	Operating losses
Indian Point 2	New York	April 30, 2020	1,020	1974	Low electricity prices; settlement with state
Duane Arnold	Iowa	August 2020	601	1975	Lower-cost alternative power
Indian Point 3	New York	April 30, 2021	1,035	1976	Low electricity prices; settlement with state
<i>Announced Shutdowns</i>					
Byron I	Illinois	September 2021	1,164	1985	Operating losses
Byron 2	Illinois	September 2021	1,136	1987	Operating losses
Dresden 2	Illinois	November 2021	902	1970	Operating losses
Dresden 3	Illinois	November 2021	895	1971	Operating losses

²⁵ Energy Harbor, “Energy Harbor Corp Rescinds Deactivation Notice for Nuclear Generating Plant in Pennsylvania,” news release, March 13, 2020, <https://energyharbor.com/en/about/news-and-information/energy-harbor-corp-rescinds-deactivation-notice-for-nuclear-gene>. A bill repealing the nuclear plant assistance was signed by the governor on March 31. See Mike DeWine, Governor of Ohio, “Governor DeWine Signs Ohio Transportation Budget,” news release, March 31, 2021, <https://governor.ohio.gov/wps/portal/gov/governor/media/news-and-media/transportation-budget-signed-03312021>.

Reactor	State	Shutdown Date	Net Summer Generating Capacity (Megawatts)	Start-Up Year	Major Factors Contributing to Shutdown
Palisades	Michigan	April 2022	784	1971	Operating losses, end of power purchase agreement
Diablo Canyon 1	California	November 2024	1,122	1985	Settlement with labor and environmental groups
Diablo Canyon 2	California	August 2025	1,118	1986	Settlement with labor and environmental groups

Source: Company news releases.

Recent Events

Federal tax credits for electricity production from new nuclear plants were extended by the Bipartisan Budget Act of 2018 (P.L. 115-123), signed into law February 9, 2018. Before the extension, new nuclear plants had been required to begin operation before January 1, 2021, to qualify for the production tax credit, which is limited to 6,000 megawatts of total generating capacity. The extension allows new reactors to use the credit after that date if the capacity limit has not been reached. Along with the extension, the tax credit was modified to allow non-taxpaying partners in a nuclear project, such as public power agencies, to transfer their credits to a project's taxpaying partners. Two U.S. reactors are currently under construction, at the Vogtle nuclear power plant in Georgia, totaling about 2,300 megawatts of capacity, well within the limit. Construction delays have pushed the planned completion dates of the new Vogtle reactors beyond the 2021 deadline, and the production tax credits are widely considered crucial for their financial viability.

Recent filings by Georgia Power, the lead partner in the Vogtle consortium, with the Georgia Public Service Commission indicate that the company's share of the project's construction and financing costs will total about \$10.4 billion. That estimate does not include costs covered by Georgia Power's \$1.5 billion share of a Westinghouse contract settlement and \$700 million in unrecovered costs. Adding those amounts would bring the Georgia Power construction and financing cost share to about \$12.6 billion.²⁶ With Georgia Power holding a 45.7% share of the project, the total construction and financing cost of the new reactors is estimated to be about \$27.6 billion, or \$13.8 billion per reactor.

The two new reactors at the Vogtle plant have received loan guarantees from DOE totaling \$12 billion, as authorized by Title 17 of the Energy Policy Act of 2005 (P.L. 109-58). Energy Secretary Ernest Moniz announced the issuance of \$6.5 billion in loan guarantees on February 19, 2014, to two of the three utility partners in the project, Georgia Power and Oglethorpe Power. Another \$1.8 billion loan guarantee for another partner, Municipal Electric Authority of Georgia, was issued June 24, 2015. Energy Secretary Rick Perry announced the finalization of an additional \$3.7 billion in loan guarantees to the three partners in the Vogtle project on March 22,

²⁶ Georgia Power, *Twentieth/Twenty-first Semi-annual Vogtle Construction Monitoring Report*, Docket No. 29849, August 2019, p. 11, <https://psc.ga.gov/search/facts-document/?documentId=178224>.