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Talen advances innovative strategy bolstering its Pennsylvania nuke plant

By George Lobsenz

While operators of other financially ailing merchant nuclear plants are begging for federal and state subsidies to stay afloat, Talen Energy has quietly launched an innovative diversification strategy under which its two-reactor Susquehanna plant in Pennsylvania will provide some 775 megawatts of emissions-free power to adjacent bitcoin mining and data center facilities planned by Talen and partners.

Talen, one of the country's biggest merchant generators with 13,000 MW of capacity nationwide, last week got a major endorsement for its strategy from Orion Energy Partners. The energy-focused investment firm pledged \$175 million over six years for construction of infrastructure needed for both Talen's new Cumulus Data plant and Nautilus Cryptomine, a joint venture launched last month by the generator and TeraWulf, a bitcoin miner.

The two planned facilities will provide substantial new demand for the 2,500-MW Susquehanna plant near Berwick, Pa., at a time when other U.S. merchant nuclear plants are finding it increasingly hard to make sales in deregulated wholesale power markets due to stiff competition from subsidized renewables and plants burning cheap shale gas.

By bolstering utilization of the nuclear plant and providing a new stream of revenues from the new facilities, the diversification strategy promises to forestall a financial crisis that might force Talen to shut down Susquehanna, which would eliminate one of the largest sources of carbon-free power in Pennsylvania.

At the same time, tapping Susquehanna's zero-emission output to run Nautilus Cryptomine addresses one of the biggest environmental concerns raised against bitcoin mining facilities—their need for vast amounts of electricity to carry out the computer operations needed to generate the cryptocurrency.

The same climate issue dogs the fast-growing and similarly energy-intensive data center sector, which is dominated by Google, Apple and Facebook and other green-leaning tech companies that are all scrambling to find sufficient renewable energy supplies to meet their corporate decarbonization commitments.

Talen said Susquehanna will not only provide clean power enabling Nautilus Cryptomine and its planned Cumulus Data facility to market their services as climate-friendly, but also provide relatively cheap electricity, making both facilities more economically competitive.

Talen, which already has committed to replacing its carbon-heavy coal plants with renewables, has touted its emissions-free bitcoin venture as concrete evidence of its commitment to advancing global decarbonization efforts.

And with a 50 percent stake in the Nautilus project, the company clearly believes it could get a significant payday from the carbon-free coins to be mined with Susquehanna's help given the eagerness of many big investment firms to show they are meeting their climate goals.

"Our Nautilus Cryptomine JV is another tangible expression of Talen's transformation to a lower carbon and digital infrastructure future," Talen President Alex Hernandez said in an August 3 statement announcing the launch of the bitcoin venture.

"As the world's adoption of digital assets and the demand for clean power accelerates, we believe these zero-carbon coins with verifiable attributes and U.S. provenance will be highly differentiated for those seeking to invest in digital coin production," he added.

"We believe our Nautilus Cryptomine coins can provide a secure, compliant, zero-carbon digital store of value to be held by investors at the largest financial institutions in the world."

Talen is making much the same pitch for its wholly owned data center initiative, which is also led by Hernandez as CEO of Cumulus Growth. It says the data center provides a low-cost, carbon-free solution for the wide range of high-tech industries needing those services and wanting to enhance their environmental, social and governance (ESG) credentials.

"The Cumulus Growth platform is well-positioned to serve technology customers by providing carbon-free, low-cost, ultra-reliable electricity integrated with digital asset infrastructure at scale," Gary Wojtaszek, former CEO of CyrusOne and advisor to Talen and Cumulus Growth in a September 21 statement. "These attributes enable the Cumulus Growth platform to offer the lowest total cost of ownership together with ESG benefits to hyperscale, cloud, AI, coin, and blockchain clients globally."

Talen further cut costs for its data center by persuading Pennsylvania Gov. Tom Wolf (D) and state lawmakers to pass legislation this summer exempting data center IT infrastructure investments from state sales and use tax. The company said House Bill 952, which was signed into law with bipartisan support, would spur job growth and economic growth for the state by attracting data center clients and accelerating digital infrastructure investment.

Wolf also has been supportive of maintaining Susquehanna and other nuclear plants in the state to retain their emissions-free power. The governor last week issued a long-term climate plan that urged state action to help those plants stay in operation, but Pennsylvania nuclear plant operators to date have failed to get legislative approval for state subsidies.

Wolf is moving to have Pennsylvania join the Regional Greenhouse Gas Initiative, an emission cap-and-trade program aimed at cutting power plant carbon emissions in 11 Northeast and Mid-Atlantic states. That initiative prompted Energy

Harbor to reverse a 2019 decision to close its Beaver Valley nuclear plant in western Pennsylvania.

However, Exelon recently closed its Three Mile Island Unit 1 reactor due to the state's failure to provide subsidies.

Talen's strategy for shoring up Susquehanna's finances appears unique in the nuclear industry, where Exelon and other merchant reactors have mainly focused on getting state—and more recently, federal—subsidies to stay afloat.

They say subsidies are vital to prevent premature retirement of money-losing reactors, which threatens to eliminate thousands of megawatts of

emissions-free power, making it much harder for states and the nation as a whole to reduce greenhouse gases from the electricity sector.

Most recently, Illinois earlier this month passed a sweeping energy bill that provided \$694 million in ratepayer-financed subsidies to three of Exelon's nuclear plants in the state—Byron, Dresden and Braidwood. Exelon, which already is receiving state subsidies propping up its Clinton and Quad Cities nuclear plants in Illinois, had threatened to close the other three plants if they also did not receive state support.

Exelon has solicited and received similar state subsidies for three of its merchant nuclear plants in New York—Ginna, Nine Mile Point and

FitzPatrick—and the company teamed with Public Service Enterprise Group to get subsidies for the Salem and Hope Creek nuclear plants in New Jersey.

Two Energy Harbor nuclear plants in Ohio also received state subsidies, but they were rescinded earlier this year due to a scandal over the authorizing legislation.

Meanwhile, House Democrats are advancing federal subsidies for financially struggling nuclear plants in their \$3.5 trillion budget bill aimed at carrying out President Biden's agenda for addressing climate change and expanding a range of social welfare programs.