

The deregulated states of the Northeast have seen several nuclear plants fall against cheaper competition, particularly from gas power, in the last few years. The New York CES seeks to buck that trend, with a requirement that its utilities source 15.7% of their forecasted load from existing upstate nuclear facilities by 2020. The plan, which also ramps up renewable energy capacity to 30% of the forecasted load by 2020, recognizes nuclear power as a zero-emissions generation source eligible for Zero Emission Credits (ZECs) that can be traded like renewable energy credits.

It does this through the creation of a “Tier 3” for nuclear power — joining previously established Tier 1 for new renewable resources and Tier 2 for existing renewables. In Tier 3, eligible nuclear facilities could participate in a ZEC market that would provide them with supporting payments, similar to Ginna’s Reliability Support Service Agreement (RSSA) with the Rochester utility (NIW Feb.20’15). A plant is eligible if it has proven record of financial struggle; for example, Ginna would only be eligible after its Rochester deal expires. Electric retail load serving entities (LSEs) can purchase ZECs directly from a nuclear plant, through the ZEC marketplace, or through arrangements with entities with surplus ZECs. The maximum price of the ZECs would be set every year by the state’s Public Service Commission.

The proposal comes at a time when nuclear is vital to reaching the state’s ambitious carbon reduction goals: with nuclear producing 30% of the state’s current power, any unexpectedly early reactor shutdowns would make it very difficult to reach the target of 40% carbon emissions reduction from 1990 levels by 2030. New York Governor Andrew Cuomo is urging that the plan be finalized in June.

The proposal won’t help Entergy’s Indian Point nuclear plant, though, which Cuomo has vowed to shut down due to its proximity to New York City. The 847 megawatt (MW) FitzPatrick plant near Lake Ontario, which Cuomo fought to save, may not benefit either since Entergy has decided to prematurely shutter it (NIW Nov.6’15). In a statement to NIW, Entergy spokesperson Patricia Kakridas said that Entergy has been calling for zero emissions recognition for a while, and “unfortunately, whatever this program may turn out to be, it would not be in place in time to change the outcome for FitzPatrick.”

Exelon Gets All the Cake

On the other hand, Exelon, which publicly applauded the proposed CES, has reason to smile. Its single unit, 582 MW Ginna plant might very well have been closed after its RSSA with the city of Rochester runs out in March 2017, but with the CES the reactor’s future now seems more secure. Exelon spokesperson David Tillman wrote in an email to NIW that while the utility is still analyzing the plan, Exelon is pleased by the CES because unlike the short-term nature of the RSSA, “the Clean Energy Standard ostensibly would recognize nuclear power’s long-term, zero carbon value.”

Exelon’s double unit, 1,924 MW Nine Mile Point, which has a relatively stable operation, would also benefit from the proposed plan. The CES white paper released by the NY Department of Public Services notes that “the economic pressures facing Ginna and FitzPatrick also apply to

the Nine Mile Point 1 and 2 plants,” which the plan intends to alleviate.

For the two-unit, 2,000 MW Indian Point, surrounded by heavily-populated suburbs and long a target of noisy opposition, the future is decidedly uncertain. The Nuclear Regulatory Commission is expected to grant the facility a 20-year license extension but the New York Department of State objected in November to granting the facility a coastal certification, finding that the plant’s use of river water for cooling was harming aquatic life. Entergy sued the state over the objection, arguing that it “focuses primarily on nuclear safety concerns, which cannot as a matter of law serve as basis for state regulatory action against a nuclear power plant,” according to Kakridas. Nuclear safety is the domain of the federal government, Entergy argued.

Whether Entergy wins the suit or not, “At the end of the day I don’t think the state is too worried about [the aquatic issue] ... it’s the location,” said Charles Fishman, equity analyst at Morningstar. The state will likely use the tools at its disposal to shut Indian Point down, he said.

It is not clear how the state intends to replace the zero emissions power from Indian Point should it shut down. The plant, which sits alongside the Hudson River, supplies nearly 25% of New York City’s power. Renewables may not be able to fill the gap, leaving carbon-producing gas generation the likely alternative. ☞

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URANIUM

Berkeley Set to Launch Salamanca

While many major producers and juniors continue to remain stuck, unable to bring new mines into production due to the weak price environment, Berkeley Energia is gearing up to begin construction of its Spain-based Salamanca heap leach, open-pit uranium project this summer, and hopes to have it up and running in 2018 — when it is banking on higher uranium prices and fresh demand. But given that the Perth-based producer still needs a substantial amount of financing for the project to begin, it’s still unclear if it can meet these goals.

When it comes to the Salamanca project, about three hours’ drive west of Madrid, Berkeley is not a stranger to obstacles. It acquired the asset under a January 2009 joint-venture agreement with Enusa Industria Avanzadas, Spain’s front-end nuclear fuel provider, that envisioned the utility supporting the project’s eventual development. But Enusa failed to meet both the initial and an extended deadline to form the joint venture, according to Berkeley, and in 2012 the matter ended up in the International Court of Arbitration where it was settled amicably the same year (NIW Apr.6’12). In 2010, Korea Electric Power Co. agreed to pay \$70 million for a 35% stake in the Salamanca project but this too ultimately fell through, possibly because of a potential takeover of the company by Russian steel-maker Severstal (NIW Oct.17’11). Ultimately, the Severstal bid also failed because both sides were unable to agree terms.

Berkeley thinks its prospects for finding investors have since vastly improved, thanks mainly to the discovery 14 months ago of “Zona 7”—a near-surface, high-grade deposit that dramatically transformed the project’s economics by reducing the estimated operating costs from \$24.60 per pound U3O8 to \$15.60/lb. Zona 7 is in addition to two other deposits — Retorillo and Alameda — and brought the project’s total estimated resources to 90.5 million lbs U3O8. In the first five full years of production the project will produce more than 20 million lbs of uranium. Major construction is scheduled for September, with the first full year of production slated for 2018 and some initial production in late 2017.

Excellent Economics, Uncertain Financing

Those plans appear ambitious given Berkeley needs \$81.4 million to get the work underway and has \$8.41 million cash on hand. Given the market’s dismal outlook, persuading investors to come on board could be a problem. Yet Berkeley Managing Director Paul Atherley isn’t worried, telling NIW that despite current market dynamics, “given the excellent economics of the Salamanca project, [Berkeley] has been inundated with offers from financiers” and that it’s exploring all available forms of financing — private equity, strategic, and equity — to develop the project. Finding financing for a project often takes a long time, said David Talbot, an analyst with Toronto-based Dundee Capital Markets and “there is still funding risk...but it doesn’t make the company any less attractive.” Berkeley’s shareholders include private equity firm Resource Capital Funds, which is also supporting non-producing juniors like Bannerman Resources and Peninsula Energy (NIW Nov.13’15).

Berkeley is looking near and far for capital, with efforts focused in Europe, Asia and the US. In Europe the company hopes to appeal to utilities by emphasizing the project’s location — one of the reasons the Perth-based company changed its name from Berkeley Resources and Berkeley Energy to Berkeley Energia (seen as more European) last July. “The opportunity [for European utilities] to source uranium on its doorstep is a significant strategic advantage,” said Atherley. Nearly 60% of the region’s uranium comes from politically riskier countries — Kazakhstan, Russia, and Niger. Curiously, however, NIW understands that EDF, one of the continent’s largest utilities, “isn’t too familiar” with the project.

Recently, too, Atherley traveled to Asia to gauge interest for offtake agreements and financing, and Hugo Schumann, Berkeley’s commercial manager did the same with US utilities, including Chicago’s Exelon, the biggest US nuclear generator. Atherley also visited Japan where utilities possess substantial inventories because he believes the utilities are looking to position themselves for material five years out from now. “[The Japanese] don’t want to run their inventories to zero before looking at another project,” he maintained.

China’s two biggest players, China General Nuclear (CGN) and China National Nuclear Corp. (CNNC), could be interested in Salamanca given its high grade and low costs, though both companies are preoccupied on the uranium front with recent past acquisitions. CGN has its work cut out at the Husab project in Namibia, and CGN’s Hong Kong-listed subsidiary CGN Mining spent C\$82 million (US\$59 million) only last December

to purchase 20% of the shares in Fission Uranium, a sum roughly equal to two-thirds of Salamanca’s projected capital costs (NIW Dec.25’15). CNNC has a stake in Paladin with offtake from Langer Heinrich. The Chinese have no shortage of financing, said one US utility buyer, and the Zona 7 deposit, which he called a game changer for Berkeley, has undoubtedly elevated interest. One way or another, Atherley said the company hopes to finalize offtake agreements along with the financing arrangements for Salamanca over the coming months. ☸

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JAPAN

NRA Pushes Tougher Standards on JNFL’s Rokkasho Plant

Two years have passed since Japan Nuclear Fuels Ltd. (JNFL) applied for a compliance review for the Rokkasho Reprocessing Plant, but it is still unclear when the Nuclear Regulation Authority’s (NRA’s) review process will end and JNFL will be allowed to operate the facility, which is central to the government’s goal of closing the fuel cycle (NIW Dec.18’15).

The review is far from complete even though there have been dozens of meetings between the two sides since JNFL submitted its operating license application to the NRA on Jan. 7, 2014. The NRA counts 44 meetings as of Dec. 9, 2015, although tallies differ depending on how the counting is done: apart from the official review meetings, the two sides meet informally more frequently to discuss issues. “It’s still not clear when the review process will end,” stated Meiji university law professor Hiro Katsuta in a paper he provided to NIW. Katsuta served on NRA study teams for both reactor and nuclear fuel cycle requirements that the NRA issued, respectively, in July and December of 2013.

Those post-Fukushima requirements are partly responsible for the prolonged review, although early and overly optimistic JNFL assumptions about the effectiveness of some of its measures are an added factor. As with reactors, these new requirements take into account the latest findings for evaluating earthquakes and tsunamis and the consideration of events, such as accidental air crashes, flooding, chemical leakage or terrorist actions by outsiders on operations. The NRA does not speculate on the length of time for any inspection regime “as the licensees often present massive corrections that prolong the process,” an NRA spokesman told NIW.

Moreover, the NRA is not just inspecting the Rokkasho plant but what might be termed the entire Aomori nuclear industrial complex, which includes a half-dozen specialized plants such as the mixed-oxide (Mox) fuel fabrication plant and the Uranium Enrichment Plant. The NRA spokesman said that inspections are moving in four channels: reprocessing, uranium enrichment, mixed-oxide fuel fabrication and waste management.

The Tokyo-based Citizens’ Nuclear Information Center says that the latest 2 1/2-year delay is probably the “best case” scenario given the NRA’s stretched resources and pressure to complete reactor safety reviews.