

Energy Matters

Nuke Plant to Run on Expired Operating License

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By Roger Witherspoon

Federal regulators have granted a special exemption to the Indian Point 2 nuclear power plant in New York, allowing it to become the first in the nation to generate electricity with an expired operating license.

The action by the Nuclear Regulatory Commission does not grant the plant its long-sought, contentious, 20-year operating license extension. But the Commissioners' action does let the plant continue operating as long as it uses the expired license as an operational guide and updates both its safety analysis and the management program for ageing equipment and systems (<http://pbadupws.nrc.gov/docs/ML1319/ML13197A034.pdf>). The original 40-year operating license for Indian Point 2 expires at midnight, September 28. The license for its sister nuclear plant, Indian Point 3, expires in December, 2015. Entergy has not sought an exemption for this second plant.

While permission to continue operating after the license expired was expected, the formal approval ends some of the uncertainty surrounding the operation of the controversial plants. But it will provide little help to the deteriorating balance sheet of Entergy, owners of the Indian Point plants, who are having trouble finding and retaining customers on the wholesale electricity markets as long as the future of the nuclear plants remains unsettled.

The twin reactors on the Hudson River, about 25 miles north of the Manhattan, produce about 2,100 megawatts, but sell only 560 megawatts into the New York City-

Westchester County service area of the state's electric grid. That is about 5% of the 13,000 megawatts the region consumes on a summer day. Indeed, the Independent System Operator, which runs the grid, states in its current Power Trends assessment that Indian Point 2 can be shut with no impact on either daily electrical needs or system reliability.

The ISO projects that there would be a deficit of some 750 megawatts, however, if Indian Point 3 shuts down at the end of 2015 and the shortfall is not filled either through conservation measures, improved transmission capabilities, or new generation. The Princeton-based NRG Energy has already submitted a proposal to the Public Service Commission to provide 1,040 megawatts of electricity from new, combined-cycle natural gas plants in Astoria, Queens.

The most notable fiscal blow to Indian Point came from the New York Power Authority, which provides electricity for municipal government operations in New York City and Westchester County, as well as the subways, street lights, schools, and LaGuardia and Westchester Airports. The company notified Entergy last fall that is not renewing its contract for electricity from Indian Point. That decision ends a 40-year association between the utility and Indian Point.



NYC Subway

NYPA built and operated Indian Point 3, and sold it to Entergy in 2000 along with a seven-year contract to purchase all the electricity from the 1,000-Megawatt plant. But NYPA has been phasing out its reliance on Indian Point as the state's grid has matured and other reliable sources of electricity became available. The current contract, which ends next month, buys only 200 megawatts from Indian Point

Consolidated Edison, which built and operated Indian Point 2, sold it to Entergy in 2001 when it was transitioning from a monopoly utility with its own power plants, to the present transmission company whose power lines carry all of the electricity in the NYC/WC electric grid. ConEd has some 4 million residential and 200,000 business customers in the region. Like NYPA, ConEd initially purchased all of the electricity

produced by Indian Point 2, but has been phasing out its reliance on the plant in recent years. Its current contract calls for just 350 megawatts from its former nuclear power plant. ConEd will purchase 550 megawatts under its new contract next month, and Entergy is desperately seeking buyers for its remaining 1,450 megawatts.

“To our knowledge,” said Bill Hunger of Moody’s Investors Service, “the ConEd contract is the only publicly disclosed contract for the Indian Point units. The Con Ed contract is unit contingent, which means Entergy has no obligation to provide power if the reference unit is not running for essentially any reason.

“While the units can continue to operate beyond their respective license expiration dates until an NRC decision is reached, it would be risky (and credit negative) for Entergy to contract the plants on a firm basis beyond the license dates, because power prices are highly volatile. While the Con Ed contract seems to show that unit contingent contracts are available, they are generally less lucrative than firm contracts.”

Moody’s currently gives Entergy a Baa3 rating, which is its lowest level above junk bond status.

Indian Point 2 can continue operating on its expired license under a federal procedural law which was intended to prevent plants from being shut down solely due to bureaucratic delays. The law provides for a “period of timely renewal” which allows plants which have met all of their requirements to continue operating until the agency completes its review.

The NRC requires plants seeking a new license to apply at least five years prior to its expiration. That is generally sufficient for the agency’s review of the plant operator’s plans to monitor its ageing equipment. Most of the 72 nuclear plants which have received extended, 20-year licenses from the NRC earned their approvals in 18 months to two years.



Oyster Creek

The only previous exemption was given to AmerGen Energy Company, the operators of

the Oyster Creek nuclear power plant in Ocean County, New Jersey in December, 2004. AmerGen was jointly owned by Exelon, the Chicago-based nuclear company, and British Energy. But BE ran into financial difficulties and sold its share of Oyster Creek to its American partner at the end of 2003. It took several months before the financial and legal issues were worked out and Exelon could actually assume complete control and prepare a formal license renewal request, less than five years before its license would expire.

The NRC approved the exemption, though it proved to be unnecessary. Oyster Creek's 20 year license extension was granted April 8, 2009, just one day before it would have expired (<http://pbadupws.nrc.gov/docs/ML0429/ML042960164.pdf>).

Opposition from civic groups is rarely sufficient to significantly block the relicensing of a nuclear power plant, since litigation is extremely expensive and opponents have to take on both the plant's operating company and the NRC, whose stated goal is to relicense all of the nation's nuclear plants.

What has made the relicensing of Indian Point the nation's most protracted was the groundswell of public support generated by a coalition of environmental and grass roots organizations. That support, in turn, made closing the plant an issue for Attorney General Eric Schneiderman and New York Governor Andrew Cuomo.

The Governor has charged the state Public Service Commission and NYPA with developing a comprehensive alternative to the Indian Point plants and a process for eliminating disruptions caused by the shut down or any other four reactors in the state. The James A Fitzpatrick plant, which is also owned by Entergy, is believed to be losing money and has been plagued with equipment breakdowns.



Eric Schneiderman

Schneiderman's aggressive environmental unit has six attorneys working full time on legal challenges to Indian Point, as well as funds to hire a battery of experts in nuclear power operations to assist them. Schneiderman successfully challenged the more than

200 exemptions to fire safety standards that the NRC granted Indian Point, requiring the agency to prepare a detailed impact assessment of the decreased fire safety.

More significantly Schneiderman, joined by the Attorney Generals of Vermont and Connecticut, won a federal court challenge to the NRC's Waste Confidence Rule (<http://bit.ly/OQoV1q>) allowing plants to store spent nuclear fuel for a century. The U.S. Court of Appeals held that the NRC must file an Environmental Impact Assessment of possible future damages caused by such on-site storage (<http://bit.ly/17WPn2Z>).

It will take the NRC at least two years to develop a comprehensive EIS for the more than 2,000 tons of highly radioactive waste stored at Indian Point. This is the primary cause of the delay in processing the license past its expiration date.

Regardless of what decisions the NRC makes, Indian Point will be shut down if it cannot meet state environmental standards governing its use of Hudson River water in its cooling system.

The state Department of Environmental Conservation has ruled that the once-through cooling system used at Indian Point violates the Clean Water Act and must be replaced with a more efficient, recirculating water system. A closed cycle system like the one used at Entergy's Vermont Yankee plant – which the state DEC has recommended – resembles a four-story radiator and cuts water use and fish mortality by 95%.

The plant's seven massive pumps draw some 2.5 billion gallons of Hudson River water daily into the plant's heat exchangers, dumping hotter water back in to the river – almost double the daily water usage of the region's 9 million residents. In the process, billions of fish are sucked in to the plant and killed each year. Entergy is currently fighting the ruling in protracted hearings before a DEC administrative law judge.