

Energy Matters

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[Entergy Leaving Gotham Behind](#)

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By Roger Witherspoon

Entergy Nuclear has dropped its share of electricity supporting New York City and Westchester County to about 4 percent of the area's power needs while selling increasing portions of its juice in an open market stretching from Maine to Delaware.

The company is spending millions of dollars on an extensive campaign to convince the public that the region would suffer if the nuclear plants at Indian Point were shut and its 2,100 megawatts were withdrawn. Simultaneously, however, Entergy is withdrawing all but 560 megawatts and is selling the rest elsewhere through the interconnecting New England, New York, Mid-Atlantic, Quebec and Ontario power grids.

In its search for the highest profit margins, industry analysts and power operators say Entergy may well opt to sell nearly all of its electricity from Indian Point 2 and 3 in Buchanan to customers outside the New York City/Westchester County service area. And because of the success of the wholesale power markets and transmission networks run by the non-profit Independent System Operators, the absence of Indian Point's megawatts has no effect on the region's electricity needs or power system reliability.

"Whether or not Entergy is going to phase out of New York City and Westchester entirely is an open question," said Justin McCann, senior industry analyst for Standard & Poor's Equity Markets. "If you look at Gov. Cuomo, there is a hostile political environment, so there is going to be a tension here and how that is going to play out, I have no idea.

"But they will go wherever they see the best market."

Entergy bought the Indian Point 3 and James A. FitzPatrick nuclear power plants from the New York Power Authority in 2000, and Indian Point 1 and 2 from Consolidated Edison in 2001. At that time, Con Ed was getting out of the power generating business and concentrating on being solely an electric transmission company. In that capacity, it delivers all of the electricity used in the New York City/Westchester section of the state's power grid. Con Ed's transmission lines carry some 9,000 to 13,000 megawatts of electricity during peak periods, with the highest usage occurring during the hottest days of summer. The 2000 megawatts provided by the twin reactors at Indian Point accounted for 22% of that energy mix in winter and 15 percent in the summer.

Under terms of the separate sale agreements, Entergy contracted to sell all of the power from Indian Point 2 to Con Ed, and all of the power from Indian Point 3 to NYPA. But these contracts were not open ended. The power markets were deregulated in 1999, just a year before the sales occurred, and how well the networked wholesale markets would work was still more theory than fact. Locking up Indian Point's electricity at a set price point for at least five years was deemed a prudent measure for Con Ed and NYPA to take as the free market system evolved.

Entergy's contract with Con Ed required Indian Point 2 to provide 1,000 megawatts through 2009. The output fell to 875 megawatts through 2010, and drops further to 360 Megawatts for 2011 and 2012, according to Con Ed spokesman Chris Olert and the company's 2010 Annual Report.

NYPA's contract with Entergy for 2009 through 2013 secures just 100 megawatts from Indian Point 3 and 100 from Indian Point 2. The current contracts with NYPA and Con Ed,

therefore, drop Indian Point's contribution to the region's electricity needs to just 6.2 percent in winter and 4.3 percent in the summer.

For NYPA, replacing that drop of 800 megawatts was not an obstacle, said spokesperson Connie M. Cullen.

"It was not difficult," Cullen said. "NYPA follows an established procurement process where we issue a request for proposals from electricity suppliers, receive bids, evaluate them, and then enter contracts. It is a well established process."

It needs to be.

Both NYPA and Con Ed purchase power wholesale and then sell it to residential, business and municipal customers. NYPA, which has its own hydro electric plants upstate, provides some 2015 megawatts of power to the region daily. According to NYPA, that breaks down to 115 megawatts for Westchester County municipal customers, government buildings, and Westchester airport; and 1,900 megawatts for New York City's government buildings and operations, the city Housing Authority, Metropolitan Transit Authority, state buildings, LaGuardia Airport, and the Jacob Javits Convention Center. JFK Airport has its own power generation.

Con Ed, on the other hand, has its own residential and non-government business customers, delivering 9,000 to 11,000 megawatts to some 345,000 Westchester and 2.8 million New York City residents.

Entergy's individual contracts are not a matter of public record and the company may be selling electricity to large clients in this region. But their contention that it is the electricity from Indian Point which keeps the subways running, La Guardia Airport operating, and the lights on at City Hall are no longer valid.

The disclosure that Entergy has quietly shifted its electricity elsewhere prompted an angry response from Gary Shaw of the Indian Point Safe Energy Coalition, which is comprised of several non-profit organizations seeking to block relicensing of the plants.

"We have known for a long time that Entergy has no credibility," said Shaw. "But this new revelation is a factual contradiction of their contention that Indian Point's output is vital to our region.

"Many New Yorkers ask how we would replace 2,000 MW from Indian Point. Entergy has already answered that question by selling their power elsewhere and letting the market fill

the void. It is now crystal clear that we don't need the electricity from Indian Point and can concentrate on shutting it down in an orderly way."

Kenneth Klapp, spokesman for the New York ISO, said large power generators like Entergy have two options for their product. "They can sell electricity in the wholesale markets we operate," Klapp explained, "or bilaterally by themselves to a load serving entity – which is a transmission company like Con Edison or a large individual customer.

"In New York State, 50% of the energy sold is bilaterally through contracts and the other half goes to either of the two markets we operate: the day-ahead market, which gets the majority of the traffic; and the real time, spot market which is dispatched every five minutes. We have 300 market participants in New York. But providers like Entergy can bid into other markets as well."

By participating in the New York ISO, Indian Point is in an expanded marketplace provided by the ISO New England, Pennsylvania-Jersey-Maryland ISO, the Ontario ISO and the Quebec Provincial Utility.



In the current, volatile energy marketplace there are good reasons for Entergy to shop around. Standard & Poor's McCann said "the spot market at this time is weak. If you look at the market now for next July, the prices are between \$47 and \$48 dollars a megawatt/hour. And the prices will be lower in 2011.

"But Entergy has contracts for 90% of their output through the end of this year and throughout 2011 at \$57 per megawatt hour. For 2012 they have already contracted 76% of their output at \$50; for 2013 they have sold 31% at \$49; for 2014 and 2015 they have sold 25% at \$51. It is prudent for them to lock in prices at this time."

It is equally prudent for Con Edison and NYPA to reduce their dependency on Indian Point's electricity at a time when their nuclear plant operating licenses are expiring and their long

term future is still not decided.

Part of the reason the electricity from Indian Point has been considered so vital to the New York City /Westchester electric infrastructure is due to widespread misunderstanding of the term “baseload electricity.” The use of that term by nuclear industry proponents usually implies that it is an essential foundation on which regional electricity needs are built. That is not the case.

“We have three classifications of electricity providers,” said Ellen Foley, spokeswoman for ISO New England, which includes Entergy’s Vermont Yankee and Pilgrim nuclear plants in its energy mix. “Baseload plants typically run all of the time. Intermediate plants can go on and off, or increase and decrease their power in a short period of time. The peak units can be turned on or off in 10 minutes and are used – as their name implies – in periods of very high demand.

“It can take a couple of days to power up a nuclear plant. If that changed, and they had more flexibility and could power up and down in a short time, they would be considered intermediate just like hydro or natural gas.”

Nuclear power is considered baseload because, when compared to other forms of power generation, they have an inferior on/off switch.

Since they have to operate at full capacity, Foley said, “Typically what they will do is sell their output through contractual arrangements to stay on line at their maximum level. With Vermont Yankee, there is no way to know how much of their power stays in Vermont and how much goes elsewhere. More than likely, they are running and selling their power throughout New England.”

While the market place is wide open and constantly evolving, some things do not change.

“Entergy can sell electricity wherever there is a buyer,” said McCann, “but it cannot produce it wherever it wishes to. Physically, they are here. These people will negotiate for every nickel and dime, but I can’t see them abandoning Indian Point.”

–Roger Witherspoon writes *Energy Matters* at www.RogerWitherspoon.com

[Q&A: State and Local Power Distribution](#)

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Q: *How much electricity is generated in the state?*

A: According to the New York Independent System Operator, which runs the power grid, total electric power generation in the state is 37,416 Megawatts transmitted over 10,877 miles of high voltage lines.

Q: *How much electricity is generated in the New York City/ Westchester power section of the grid?*

A: The NY ISO reports there are 11,087 Megawatts of generating capacity in this region.

Q: *What were the peak electric load forecasts for 2009 and this year?*

A: The NY ISO reported the projected peak usage for 2009 was 33,425 Megawatts though the actual peak reached just 30,844 Megawatts. The projected peak this year was 33,025 Megawatts.

Q: *How has the price of electricity changed in the wholesale marketplace?*

A: The average annual cost of electricity in 2008 was \$95.31 per megawatt/hour. In 2009, the average annual cost of electricity was \$48.63 per megawatt/hour.

Q: *How does the cost of natural gas affect the price of electricity generated by nuclear power?*

A: Natural gas sets the market price in the day-ahead and spot markets, which are calculated every 5 minutes. Nuclear power comes in at a lower cost than natural gas and the difference is the profit earned by the nuclear operator.

Q: *How much of the electricity generated in New York is sold in the markets and how much is sold under long-term contracts?*

A: About half the electricity generated in New York is sold under long term contracts to distributors such as Con Ed and NYPA, or to individual users like Fordham and New York Universities, and the Metropolitan Transit Authority. The remaining 50% is sold on either

the day-ahead, or the spot markets.

Q: *Must the electricity made in New York be sold to companies or distributors within New York?*

A: No. The NY ISO is connected to ISO New England, the Pennsylvania-Jersey-Maryland ISO encompassing the Mid-Atlantic states and, in Canada, the Ontario ISO and the Quebec Provincial Utility. Electricity can be sold in the day-ahead and spot markets, or long term contracts made to clients throughout the network.

Q: *What does Indian Point primarily rely on: long-term contracts or the markets?*

A: According to an analysis by Standard & Poor's Entergy has contracts for 90% of Indian Point's electricity this year; 95% of its output in 2011, 76% of its output in 2012, 31% of its output in 2013, 25% of its output in 2014, and 15% of its output in 2015.

Locally, Indian Point is contracted to provide NYPA with 200 megawatts through 2013. It is contracted to provide Con Ed 875 megawatts through the end of 2010, and 360 megawatts through 2012.

– By Roger Witherspoon

[Q&A: Entergy's Local Presence](#)

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Q: *How much electricity do Indian Point 2 and 3 produce?*

A: According to Entergy's annual report for calendar year 2009, Indian Point 2 produces 1,028 megawatts of electricity and Indian Point 3 produces 1,041 megawatts.

Q: *How much electricity is used in the New York City / Westchester County service area of the NY State power grid?*

A: New York City and Westchester County use 9,000 to about 13,000 megawatts of electricity during peak periods daily, according to Consolidated Edison, which transmits all

of the electricity. The lowest use is in the winter, the highest in the summer.

Q: *What percentage of the area's electrical needs was met by Indian Point when it sold all of its power to Con Ed and NYPA?*

A: The percentage ranged from about 22% in the winter to 15% in the summer.

Q: *What percentage of the area's electrical needs is met by Indian Point now?*

A: The 560 megawatts contracted to Con Ed and NYPA amount to 6.2% in the winter and 4.3% in the summer.

Q: *Entergy claims Indian Point provides up to 40% of the electricity used in the New York City/ Westchester County grid. How do they arrive at that figure?*

A: Energy use is based on the peak, or maximum load of the day when people are actually using electricity. For Entergy's 40% claim to be accurate, electricity usage in New York City and Westchester would have to fall to only 5,000 megawatts.

Con Ed reports that the energy load drops to that level between 3 AM and 5 AM, Sunday mornings, about three times in the late spring and three times in the early fall when it is too cool for air conditioning, too warm for electric heaters, and the city sleeps. During those isolated periods the 2,000 megawatts from Indian Point – if it were all used in the region – would comprise 40%.

Q: *Is it legitimate to use the exception – when everyone sleeps – to calculate Indian Point's value to the regional power grid?*

A: No. The industry's buyers and providers base their contracts on maximum projected electricity use, not the occasional exceptional circumstance.

If it were legitimate to use the exception, when most electrical systems were turned off, it would also be legitimate to claim that the most consistent power source in the region is the Eveready Bunny, whose batteries powered flashlights throughout the New York City/ Westchester County grid during the 2003 Blackout.

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