Indian Point Energy Center Nuclear Plant Retirement Analysis

A summary of a report by Synapse Energy Economics, Inc.

October 17, 2011

Full text: https://www.nrdc.org/sites/default/files/Synapse_Report_Indian_Point-2011-10-14_final.pdf

KEY FINDINGS

The report argues that:

- Con Edison, which serves New York City, relies on Indian Point for just 12% of its total capacity. Long Island Power Authority and Central Hudson Gas & Electric do not rely on Indian Point at all.

- There is a surplus of electricity capacity in the area around Indian Point. If Indian Point were closed, existing energy sources could cover supply through 2020, after which point some additional capacity would need to be found and could likely be covered by current projects. The math breaks down as follows:

    - The two units at Indian Point each have the capacity to generate about 1,020 MW (MegaWatts) of electricity, or 2,040 MW combined.

    - Energy efficiency initiatives alone - beyond what is currently planned - could provide as much as 1,570 MW of energy savings.

    - Renewable resources *could* provide roughly 1,154 MW of energy. (To project future capacity, the report assumes that only 50% of then-proposed renewable projects will actually be completed.) *Details*:

        - "There are currently roughly 5,500 MW of renewable resources, the majority of which are wind projects. Only a portion of the wind capacity is considered to be available. Therefore, the 5,365 MW of wind capacity is roughly equivalent to 1,154 MW of capacity that can be used to meet the state's summer peak reliability requirements. Even if only one-half of this capacity is eventually developed, it would provide roughly 244 MW of renewable resources in the regions near Indian Point, and 333 MW of renewable resources in the rest of the state." (p. 3)

    - There is a large potential for rooftop solar and off-shore wind resources. Older natural gas plants in New York City can be restarted or replaced with new more efficient plants on the same site. *Details*:

- "In addition, new efficient, combined-cycle gas-fired power plants with state of the art pollution controls can help meet reliability requirements in the absence of Indian Point. There are currently 4,208 MW of new gas-fired plants… The majority of this capacity, 3,908 MW, is located in the regions near Indian Point. Assuming that 50 percent of the remaining gas-fired projects come on line as scheduled, there will be 1,954 MW of new natural gas capacity in the regions near Indian Point, nearly enough to replace [the nuclear facility]." (p. 4)

ECONOMIC IMPACTS

"The ultimate cost of replacing Indian Point will depend upon the choices that are made by policymakers…The introduction of energy efficiency as replacement power for Indian Point should significantly reduce the increases in the wholesale energy. For every dollar spent in energy efficiency there will be a reduction in costs by two to three dollars. Therefore, increased energy efficiency will reduce electricity costs." (p. 5)

"Finally, we note that the impacts on typical electric customer bills in New York are likely to be very small. A typical Con Edison residential customer using 300 kWh per month pays a monthly bill of roughly $81.00. For such a typical customer, a one to three percent increase in electric bills would translate into roughly $0.81 to $2.43 extra per month. For those customers that participate in energy efficiency programs, this increase in electric bills would be more than offset by reductions in bills due to energy efficiency savings." (p. 6)

- The report also argues with the opposing side's economic analysis: "Under the higher, and less realistic, estimates provided by [opposing Charles River Associates report], a two to five percent increase in electric bills would translate into roughly $1.62 to $4.05 extra per month." (p. 6)

CONCLUSION

"We find that there are likely to be ample existing and new resources available to replace Indian Point if it were to retire; and that neither New York City's nor New York State's electricity reliability would be jeopardized. A replacement scenario focusing on cost- effective demand-side resources, local renewable resources, repowering of existing older inefficient power plants and new efficient generation as necessary would maintain reliability at a low cost to electricity customers." (p. 33)