

STATE ENVIRONMENTAL REGULATION

Expert Analysis

## Considering Nuclear Power As Indian Point Faces License Renewal

In the New York metropolitan area in recent weeks, nuclear energy has not been in the news as much as other issues relating to power, or the lack thereof. During this period, however, three administrative law judges (ALJs) for the Nuclear Regulatory Commission (NRC) have been in the middle of hearings on a topic that could affect the future of power generation in New York, and elsewhere, for years to come.

The ALJs will determine, in essence, whether two reactors at the Indian Point nuclear plant, about 35 miles north of Manhattan, will be able to continue to operate. Their ruling undoubtedly will be followed by appeals and a significant amount of litigation; therefore, a final decision in all likelihood is years away. Yet with the various interested parties having set forth their positions, and given concerns about climate change that have been front-page news as a result of Hurricane Sandy and the presidential election, it seems timely to examine the regulatory licensing process—and the role that state regulators are playing in this process.

### Indian Point

Indian Point, on the eastern shore of the Hudson River in Westchester County, has two operating nuclear reactors, known as Units 2 and 3, that now are owned and operated by Entergy Corporation.<sup>1</sup> The reactors are able to generate

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over 2,000 megawatts of power. Unit 2 began commercial operations on Aug. 1, 1974, and its license is set to expire on Sept. 28, 2013; the license for Unit 3, which began commercial operation on Aug. 30, 1976, is set to expire on Dec. 12, 2015.<sup>2</sup>

The expiration of the reactors' 40-year licenses coincides with the end of their "useful life," but that does not necessarily mean that they must shut down. In 2006, in an effort to continue operating the reactors, Entergy began the relicensing process by seeking to renew the reactors' licenses for 20 more years,<sup>3</sup> and it is this process in which the ALJs currently are participating. Perhaps significantly, the NRC has never refused to renew a nuclear facility's license,<sup>4</sup> and, in any event, the reactors will continue to operate during the time the NRC is considering the license renewal requests, even if that extends past the expiration of the current licenses.

### Safety

Opponents of the Indian Point relicensing include, most significantly, Governor Andrew Cuomo, as well as a variety of environmental advocacy and consumer groups. The principal reasons for the objections fall into two general categories: safety and environmental.

The safety issues primarily relate to evacuation difficulties and the risk of a terrorist attack.

The Department of Environmental Conservation (DEC) has pointed out that 20 million people live in the communities surrounding Indian Point, including in New York City. The DEC has argued that any radiation release would be a "complex and profound event," especially if it were "sudden and fast moving." Thus, the DEC has contended, any decision by the NRC to re-license Indian Point should include a requirement that Entergy "address precisely how it plans to react to and protect these communities should the unthinkable event happen at Indian Point."<sup>5</sup>

In addition, the DEC has expressed concern over a potential terrorist attack targeting the reactors—and the pools of spent fuel at Indian Point. These spent fuel pools are used to store more radioactive material than is found inside the active nuclear reactors, and the pools have no containment structure. The DEC has argued that this radioactive waste "is exposed and unsecured" and "vulnerable to attack."<sup>6</sup>

It is not clear whether these safety issues will be addressed by the NRC or need to be addressed in order for the NRC to grant the license renewals, or whether they simply are "regularly reviewed" in the ordinary course.<sup>7</sup> In any event, under federal law and preemption rules, New York state regulators may have a limited ability to affect these safety issues because they arguably are in the domain of federal authorities.

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## Environmental Issues

The ability of the state to influence—or perhaps even to control—the re-licensing decision may be different with respect to environmental concerns.

The environmental issues raised by opponents to the reactors' re-licensing were summarized in large part by the DEC, which has argued that:<sup>8</sup>

- Radionuclides including strontium-90 and tritium are leaking into the ground-water and into the Hudson River from the “aging structures” of Indian Point;

- The operation of Indian Point consumes and returns approximately 2.5 billion gallons of Hudson River water each day; during that process, large fish are “impinged” on screens at the water intake where they are severely stressed and then suffocated and smaller fish are “entrained” in the water intake (pulled through the operating plant and killed);

- Indian Point's design uses massive quantities of Hudson River water when operating, and this system returns significantly heated water back to the river, with the heat shock/thermal impacts impacting tens of millions of fish; and

- Operation of Indian Point impinges shortnose sturgeon—an endangered species—and impinges and entrains the Atlantic sturgeon, a threatened species.

The reason that these environmental issues may provide leverage for New York is that the re-licensing of the Indian Point reactors requires a water quality certificate (WQC) from the state under Section 401 of the Clean Water Act (CWA).<sup>9</sup> If the state withholds a WQC permit for Indian Point, that may end up derailing an NRC decision to grant Entergy's request to have the licenses renewed.

In 2010, the DEC did just that.<sup>10</sup> The DEC determined that the CWA required that Indian Point use the “best available technology,” which in its view meant a “closed-loop” cooling system instead of the current system of using water from the Hudson River to cool the plant. Entergy reportedly believes that such a

cooling system would cost over \$1 billion, thus making Indian Point financially impossible to operate.<sup>11</sup>

Entergy has appealed the DEC's WQC decision, contending that a closed-loop cooling system is not required under a cost-benefit analysis provided under Section 316.7 of the CWA,<sup>12</sup> to which the DEC has responded that the best available technology requirement trumps a cost-benefit analysis. Entergy also has contended that the DEC failed to issue a WQC decision within the one-year time period provided by the CWA and that its decision therefore should be of no concern.<sup>13</sup>

Neither of these two legal issues relating to the WQC decision has yet been finally resolved, and, like much associated with the Indian Point license renewal process, may not be for some time.

### The Environmental Scorecard

Whether or not the NRC will refuse to renew the Indian Point licenses, or whether or not the DEC's WQC decision will doom the renewal effort, there are certain environmental aspects of Indian Point that proponents of license renewal suggest should lead to a decision to renew.

Entergy itself has explained that the “clean and affordable” power generated by Indian Point—enough to meet between 18 and 38 percent of the daily electricity needs of the lower Hudson Valley and New York City—produces “none of the greenhouse gases and other pollutants that contribute to global warming.”<sup>14</sup> That would change, Entergy contends, because the replacement power that closing down Indian Point would necessitate could only be obtained by the burning of fossil fuels.<sup>15</sup>

There are other reasons advocates have raised for not closing Indian Point, including that mothballing the two reactors would require the expenditure of substantial funds and that radiation issues, at least, could not be easily solved whether the reactors operate or are de-fueled.

Three ALJs for the Nuclear Regulatory Commission will determine, in essence, whether two reactors at the Indian Point nuclear plant will be able to continue to operate.

### Conclusion

Current New York City Mayor Michael Bloomberg and former Mayor Rudolph Giuliani both support Entergy's efforts to re-license Indian Point, while there are advocacy groups that say there are ways to replace the energy generated by Indian Point in an environmentally sound, and cost-effective, manner.<sup>16</sup> One thing is clear, however. The fight over Indian Point is an important one, with national and local implications, and it is not going to be settled for some time to come.



1. Unit 1 is de-fueled and not operating. See N.Y. Dept. of Env. Conserv. (DEC), “Indian Point,” available at <http://www.dec.ny.gov/chemical/61837.html>.

2. See Entergy Corp., “Indian Point Energy Center,” available at [http://www.entropy-nuclear.com/plant\\_information/indian\\_point.aspx](http://www.entropy-nuclear.com/plant_information/indian_point.aspx).

3. See Entergy Corp., “Entergy Seeks 20-year License Renewal for Indian Point Energy Center,” available at [http://www.entropy.com/News\\_Room/newsrelease.aspx?NR\\_ID=910](http://www.entropy.com/News_Room/newsrelease.aspx?NR_ID=910).

4. See, e.g., <http://www.boston.com/news/local/vermont/2012/10/15/nuke-plant-opponents-try-block-new-licenses/pEPCXoHF1x9kywTGDKv9XJ/story.html>.

5. See “DEC Position on Indian Point Relicensing,” available at <http://www.dec.ny.gov/permits/40237.html>.

6. *Id.*

7. See, e.g., “Hearings on NY nuke plant start with tech talk,” *supra* n. 4.

8. See “DEC Position on Indian Point Relicensing,” *supra* n. 5.

9. See Clean Water Act, Section 401 Certification, available at <http://water.epa.gov/lawsregs/guidance/wetlands/sec401.cfm>.

10. See New York Dept. of Env. Conservation, Nos.: 3-5522-00011/00030 and 3-5522-00105/00031 Notice of Denial (April 2, 2010).

11. See David M. Halbfinger, “New York Denies Indian Point a Water Permit,” *New York Times*, April 3, 2010, available at <http://www.nytimes.com/2010/04/04/nyregion/04indian.html>.

12. See 33 U.S.C. §1326(b).

13. See Entergy Corporation letter to Brian E. Holian, Director, License Renewal, U.S. Nuclear Regulatory Commission (July 29, 2011).

14. See Entergy Corp., “Entergy Seeks 20-year License Renewal for Indian Point Energy Center,” *supra* n. 3.

15. *Id.*

16. See, e.g., Andrew Kirchner, “Nuclear Power and New York City: Columbia's Forum on the Environmental Consequences and Catastrophic Risks of Indian Point,” available at <http://www.columbiaenvironmentallaw.org/assets/pdfs/FR/Kirchner-MACRO-final-5.31.2012.pdf>; “Indian Point Replacement Analysis: A Clean Energy Roadmap,” available at <http://www.synapse-energy.com/Downloads/SynapseReport.2012-10.NRDC.Indian-Point-Replacement-Study.12-047.pdf>.