



The Beginning of the End of

Indian Point

Countdown to a New Energy Future. New York can and must do without the dirty, dangerous and outdated nuclear power of Indian Point in order to meet the promise of a new energy future. Riverkeeper has been working on various fronts to bring to fruition a future without Indian Point and has made a number of important strides to that end.

By Deborah Brancato, Yvonne King, and Mark Lucas

In 2012, there were several key events that not only signaled a change in the way Indian Point is allowed to operate, but also provided a glimpse into the sustainable, renewable, energy efficient New York that is possible in only a few short years without the unsafe power from the aging and dated nuclear plant.

Landmark Court Ruling

Riverkeeper and 23 partner organizations made history in June of 2012 when in a landmark decision, the Court of Appeals for the D.C. Circuit in Washington ruled that the Nuclear Regulatory Commission (NRC) cannot relicense nuclear power plants without considering the hazards of storing radioactive spent fuel onsite indefinitely in the event a permanent means of disposal is not found.

This precedent setting ruling, which threw out the NRC's hollow "Waste Confidence Decision," means that the NRC has to conduct an environmental impact study about the dangers and effects of storing toxic nuclear waste not only at Indian Point, but at every reactor site in the U.S. before a license can be issued or renewed.

Riverkeeper and partner groups are informing the process that will determine the NRC's "new" NRC's "new" position on waste confidence and will hold the agency's feet to the fire to make sure they follow the spirit and intent of the Court's decision. Our involvement will ensure that critical risks are fully considered, including risk of fires in high-density fuel pools, and risk of fuel damage from earthquakes.



Point

Photo By: John Lipscomb

Indian Point Relicensing Hearings

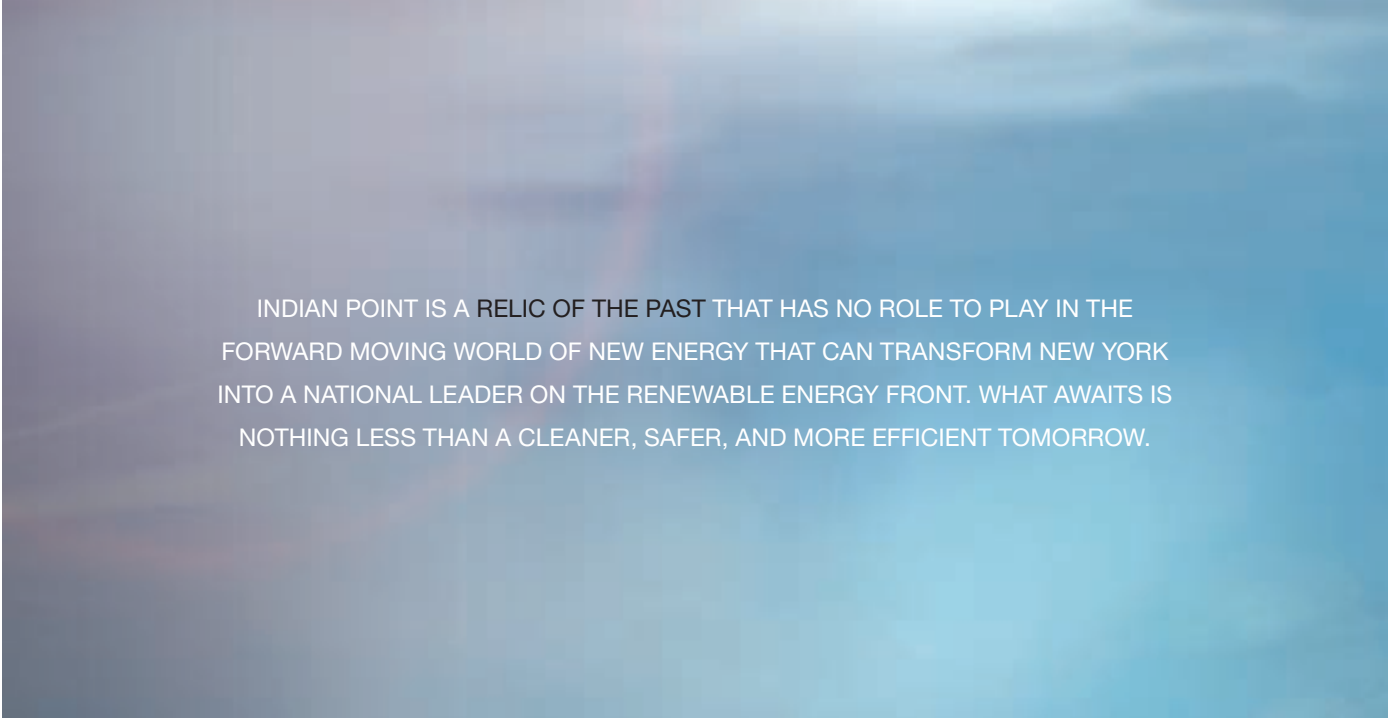
After years of building our case, hearings to determine the fate of Indian Point's potential license renewal finally got underway this past October, November, and December. Riverkeeper, along with the State of New York Attorney General's Office, and Hudson River Sloop Clearwater, began the process of presenting compelling, expert supported evidence to a Federal Atomic Safety and Licensing Board of the NRC relating to the many reasons why the plant must not be allowed to continue to operate. Over the course of 12 hearing days, testimony and documents illustrated plant owner Entergy's sheer inability to safely manage the badly aging Indian Point facility (including inaccessible and leaking buried pipes and tanks, and exploding transformers), and refusal to assure the mitigation of severe accident consequences. The parties also addressed NRC and Entergy's failure to fully assess important environmental issues, including the viability of alternative energy schemes to reliably replace Indian Point, as well as environmental justice concerns.

Riverkeeper in particular presented evidence relating to Entergy's marked failure to demonstrate that unacceptable pipe corrosion will be properly managed if Indian Point keeps operating. This type of aging mechanism has serious safety implications, and could lead to serious accidents if piping components break as a result of undetected wall thinning. Riverkeeper's nuclear engineer expert, Dr. Joram Hopenfeld, took the stand and pointed to

Entergy's misplaced reliance on a completely inaccurate, unreliable computer code in order to predict where corrosion will occur and where to perform a few choice representative inspections of the thousands and thousands of susceptible components. A second round of hearings for several additional critical safety and environmental issues, yet to be scheduled, will give Riverkeeper the opportunity to add to the mounting case against Indian Point.

Radiological Leaks Victory

In fall 2012, Riverkeeper tallied up another victory against Entergy. Riverkeeper had raised an issue in the relicensing case relating to Entergy and NRC's failure to adequately assess the environmental significance of the spent fuel pool leaks at Indian Point Units 2 and 3. These leaks have been occurring for decades and have resulted in two large plumes of groundwater contamination that are known to contaminate the Hudson River and will continue to do so indefinitely. As part of a settlement of this issue, Entergy will establish a public website dedicated to the release of timely information concerning the radiological contamination at Indian Point, namely, quarterly groundwater monitoring reports containing data as well as information about the status of the contamination plumes and any new accidental leaks or spills. This forced transparency will hold Entergy accountable, and guarantee that the public will no longer be kept in the dark about, or surprised by, accidental radiological releases from Indian Point. This is important for ensuring the health and safety of all



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New Yorkers who swim, fish and boat in the Hudson. Entergy must also conduct additional downstream fish sampling in the Hudson River in the vicinity of Haverstraw Bay, a designated significant coastal fish and wildlife habitat. This measure will help illuminate the potential long-term effects of radiological leaks from Indian Point on the aquatic ecosystem of the Hudson River, as such leaks contaminate the river for decades to come.

These two actions, scheduled to commence during the latter portion of 2013, are decisive and tangible steps that will help rectify the environmental harm posed by Entergy's failure to prevent or adequately address accidental radiological leaks at Indian Point. Riverkeeper continues to advocate for an actual clean up of the contamination and other measures, as part of ongoing efforts in state proceedings pending before the Department of Environmental Conservation.

New Safety Analysis

Riverkeeper's consulting nuclear safety analyst, Mark Leyse, conducted an assessment of Entergy's outlandish claims about Indian Point in response to the devastating Fukushima Daiichi nuclear accident of March 2011. The findings were unsettling. Mr. Leyse's analysis debunked Entergy's claim that Indian Point is allegedly capable of controlling a build-up of hydrogen and thereby avoid devastating explosions like the ones that occurred in Japan. Such a build-up in the event of a meltdown could undeniably lead to a detonation at Indian Point and cause a breach of containment and large radiological release to the environment. The specter of New York City and parts of the parts of the state being rendered uninhabitable by dangerous levels of radiation is one that could become a grim reality if Indian Point remains in operation. Based on Mr. Leyse's assessment, in November of 2012, Riverkeeper filed an enforcement petition with the NRC that is still pending, requesting that the power plant be permanently shut down.

New Energy Sources

In October 2012, Riverkeeper and Natural Resources Defense Council released a report showing that in just the last year, New York State

began developing at least 25% of the alternative electricity sources necessary to replace the Indian Point nuclear power plant. The report, *Indian Point Replacement Analysis – A Clean Energy Roadmap*, was prepared by Synapse Energy Economics, Inc. and assesses clean energy resources in the state, as well as the policies necessary to implement them. This report follows a 2011 Synapse report commissioned by the groups that found there is a wide range of replacement energy options available in NY to reliably and cost-effectively replace Indian Point if the plant's operating licenses are not renewed. The 2012 report reaffirms those findings and follows up with a "how-to" policy guide, focusing solely on efficiency and renewable energy options.

Thanks the Synapse study, we now know that the cost of replacing Indian Point's power is just \$12- \$15 for the average residential consumer – per year. That's only about \$1 per month!

In addition, Governor Cuomo's New York Energy Highway Task Force presents a practical plan for moving ahead into a new energy future that eliminates the need for Indian Point. Riverkeeper stands behind several of the blueprint's initiatives, which include improving the State's transmission grid and a focus on renewable energy.

Both the Synapse study and the task force blueprint have shown that if proactively and properly developed, New York State's natural landscape and resources can provide an abundance of power in the form of hydro, wind, and solar energy.

Indian Point is a relic of the past that has no role to play in the forward moving world of new energy that can transform New York into a national leader on the renewable energy front. What awaits is nothing less than a cleaner, safer, and more efficient tomorrow.

Read Indian Point Replacement Analysis:
A Clean Energy Roadmap at www.riverkeeper.org

DEC Clean Water Act Permitting and Water Quality Certification Hearings

As spring passes, the Indian Point nuclear generating facility's outdated cooling water intake structures will soon reach the most destructive levels of their annual entrainment of over one billion early life stage aquatic organisms from the Hudson River estuary. Each year, 1.2 billion eggs, fish larvae and juvenile fish are sucked into Indian Point as the facility withdraws 2.5 billion gallons of cooling water from the Hudson each day. Those organisms are killed by being cycled through the plant with cooling water associated with the generation of electricity by Indian Point's two pressurized water nuclear reactors, and discharged back to the Hudson River at temperatures of up to 110° Fahrenheit. Adopting closed-cycle cooling technology would cut down the water intake from the Hudson River by approximately ninety five percent and thus minimize the number of fish killed and the impact of thermal discharge.

Since October 2011, Riverkeeper has been involved in ongoing Clean Water Act (CWA) administrative hearings in Albany alongside the staff of the New York State Department of Environmental Conservation (DEC). Riverkeeper continues to present evidence that Indian Point is required to reduce its cooling water demand through the use of established and feasible closed cycle cooling technology. This would minimize adverse environmental impacts and fully support the best usages of the Hudson River for fishing and fish propagation and survival. Entergy continues to oppose the issuance of a draft DEC 2003 permit requiring the installation of closed-cycle cooling technology while also appealing DEC's 2010 denial of a separate state CWA section 401 water quality certification which Entergy requires in connection with the requested



Photo By: Emily Griffin Watson

renewal of its NRC operating license. Riverkeeper has already presented expert engineering and ecological testimony in support of DEC's 2003 permit and 2010 water quality certification denial.

Entergy argues that an alternative technology in the form of 144 six-foot diameter cylindrical wedgewire (CWW) screens nearly 20 feet long, which it proposes to be installed on roughly five acres of the bed of the Hudson River, will reduce Indian Point's adverse environmental impacts to a level that is on par with closed-cycle cooling. Riverkeeper supports DEC staff's rejection of Entergy's proposed alternative compliance technology. Along with DEC staff, Riverkeeper is also seeking immediate reduction of the impact Indian Point's catastrophic cooling water withdrawals on the Hudson River ecosystem.

Hearings are set resume in July of this year regarding the aquatic impacts associated with installation and operation of Entergy's proposed CWW screen array in the bed of Hudson River. Although Entergy was directed by DEC in 2008 to provide information regarding the aquatic impacts of its proposed alternative technology before the hearings began in October of 2011, Entergy has only recently provided such information to Riverkeeper and DEC. Entergy was also directed by DEC in 2008 to provide Indian Point revenue information to Riverkeeper and DEC in connection assessing the costs of installing and

operating closed-cycle cooling technology, but Entergy has fought the disclosure of such information, further delaying the completion of the hearings. All the while, Indian Point has operated with its existing once-through cooling water scheme providing Entergy with the lowest cost method of condenser cooling and utilizing the highest level of generating capacity.



In the Courtroom

Mark Lucas joined Riverkeeper in May of 2011 as a staff attorney with the Hudson River Program. He works out of Riverkeeper's Albany office, principally on the ongoing Indian Point Clean Water Act permitting and water quality certification

hearings pending before the New York State Department of Environmental Conservation. Mark's presence in Albany is also instrumental in providing on-the-ground legislative counsel and lobbying services, and he was most recently an integral part of Riverkeeper's efforts in pushing through Sewage Right to Know Legislation.