THREE PARKS INDEPENDENT DEMOCRATS

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Three Parks Independent Democrats urges the Nuclear Regulatory Commission to deny license extensions for the Indian Point nuclear reactors.

Indian Point is the most dangerous nuclear plant in the nation, according to the NRC itself. It is taking in and polluting 2.5 billion gallons of water each day from the Hudson River. The evacuation plan does not include New York City. We recently delivered 1000 letters signed by our friends and neighbors to Governor Cuomo and Senator Schumer asking them to call for the denial of license extensions.

During the summer of 2011, New York State made elaborate and costly preparations to protect its citizens from loss of life and property in the face of Hurricane Irene, a natural disaster that we couldn't control. By denying license extensions to IP, we have a perfect opportunity to prevent a man-made disaster that we can control.

In June 2010, we met with staff from the NRC to find out about the relicensing process and were astonished to learn the limited nature of relicensing criteria—relicensing depends only on the physical condition of the reactor's machinery and little else. The NRC has a very impressive list of every nut and bolt in the plant, all of which are checked to determine if, having lasted for 40 years, they are now good for another twenty. That is all. The NRC will not take into account any of the changes that have occurred since the plant was built in 1974. Following is a review of those changes.

1) Instead of each utility's producing power for a defined district, as was the case when Indian Point was built, electricity is now sold nationwide. Less than 25 percent of Indian Point's 2,000 MW capacity is used in New York State.[1] The rest is sold elsewhere. We take the risk and other states get the benefit.

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[1] 2010 Con Ed Annual Report at p. 119 ("contracted output will decrease to 350 MW in 2011 and in 2012"); 2010 New York Power Authority Annual Report at p. 59 ("the Authority agreed to purchase energy from Entergy's IP3 and IP2 nuclear power plants in the total amount of 200 MW during the period 2009 to 2013"). In terms of actual output, IP provides little more than 12 percent of the state's energy. http://www.lohud.com/apps/pbcs.dll/article?AID=/999999990230/WATCHDOG/399990108. The two IP reactors represent 12.5 percent of the total summer capability in Westchester and NYC. National Academy

2) When the plant was built, no one knew it was sitting on an earthquake fault. The NRC itself has a study showing that Indian Point is the most likely nuclear plant in the USA to experience core damage and a release of radioactive contamination following an earthquake. Apparently this will not be considered in relicensing. In addition, there have been changes in siting nuclear plants near population centers. In short, Indian Point could not be licensed today, so it defies logic to extend its current licenses. In August 2011, New York experienced the effects of an earthquake, Hurricane Irene, and a tornado all in one week. It no longer suffices to say, "It can't happen here."

3) In 1974, it was widely believed that the federal government would open a waste depository at Yucca Mountain to which spent fuel from Indian Point would be sent. (In fact, $8 billion was spent to construct a structurally unsound storage vault there.) That has not happened and is unlikely to happen. The result is that 1500 tons of nuclear waste are stored on site in Westchester; 1000 more tons will be added if the plant is relicensed for another 20 years. This alone is an ongoing and unnecessary threat to the region. We will have to pay to safeguard this waste forever. (The June 2012 D.C. Circuit Court decision vacating the NRC's rule allowing the agency to relicense aging nuclear reactors without addressing the dangers of storing highly radioactive spent fuel onsite underscores the critical nature of this issue.)

   The radiation release at Fukushima was from spent nuclear rods of the type found at Indian Point. It will be years before the full ramifications of the health consequences of the Fukushima release are known; there is no need to take such a catastrophic risk in New York.

4) The plant was built during the Cold War; today, the threat is from terrorism. Both nuclear reactor cooling systems and waste storage are vulnerable to disruption from within or without the plant.

5) When Indian Point was built, the accidents at Chernobyl and Three Mile Island had not yet occurred; the danger of such plants was not fully realized. At Fukushima, the U.S. instructed its citizens to stay at least 50 miles from the plant—for Indian Point, that would mean evacuating 20 million people, including New York City. Evacuation plans are not part of the NRC's licensing review; there is currently no forum in which to raise concerns about them.

6) The impact of climate change was not understood in 1974. We do not expect Indian Point to be hit by a tsunami, but flooding during the summer of 2011 in the eastern states shows that climate change is a factor. We have the specific example of the Fort Calhoun plant in Nebraska, which fortunately happened to be shut down when flood water from the Missouri river penetrated the buildings. The NRC will not consider this in the relicensing process.

7) The alternative energy industry was in its infancy in the 1970s; few people realized that there were safe, clean, and abundant alternatives to coal and nuclear power. Over several

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of Sciences (2006), *Alternatives to the Indian Point Energy Center for Meeting New York Electric Power Needs* at p. 12. New York City is required by law to provide 80 percent of its energy from within the five boroughs. http://www.nyiso.com/public/index.jsp

decades, governmental subsidies in the billions have been provided to nuclear, oil, and coal, and only a smattering of money for renewables. Renewables are now being developed.

8) Studies since 2005[2] have shown that there would be enough power available from existing and approved generating units in New York State and neighboring grids, through import over existing transmission lines, to meet the area's electricity needs with the permanent retirement of IP at the end of its current licenses. More recently, New York has taken significant steps:

   a. In January 2012, the Assembly Committee on Energy and the Committee on Corporations, Authorities and Commissions concluded that coordinated investments in the existing transmission system, energy efficiency, and the completion of projects already in the planning process would provide more than enough resources to allow Indian Point to close without overburdening ratepayers or threatening reliability standards.

   b. Power New York Act 2011, an energy and jobs bill, established a new Article X power plant siting law and creates a panel to oversee development of new power-generating facilities throughout the state. http://www.lohud.com/article/20110624/OPINION/106240311/Power-New-York-Act-win-win: The law makes it easier to permit smaller renewable projects, has strict air emissions and environmental justice/public participation provisions, and also sets up a clear, more predictable process for companies to plan around. The bill includes provisions to help make energy retrofits of homes and businesses more affordable—saving money and creating green-energy jobs. Combined with the increased public pressure on Entergy (*New York Times* articles, Standard and Poor's downgrading of their credit rating, etc.), other power producers should start taking a closer look at coming into the NY marketplace.

   c. Two-thirds of New York City's rooftops are suitable for solar panels and could jointly generate enough energy to meet half the city's demand for electricity at peak periods, according to a new, highly detailed interactive map—June 16th *NY Times* http://www.nytimes.com/2011/06/16/science/earth/16solar.html; CUNY map http://www.cuny.edu/about/resources/sustainability/solar-america/map.html Solar power could be quite affordable in New York City.[3]

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[2] Alternatives to the Indian Point Energy Center for Meeting New York Electric Power Needs, National Academies Press, June 2006 http://orsted.nap.edu/openbook.php?record_id=11666&page=R1; Indian Point Retirement Options, Replacement Generation, Decommissioning/Spent Fuel Issues, and Local Economic/Rate Impacts, Levitan & Associates, Inc., June 2005 www.westchestergov.com/currentnews/2005pr/levitanreport.pdf

[3] "At $3.50 per watt installed, and with the federal 30 percent investment tax credit (ITC), solar power in New York City can provide electricity at 16 cents per kilowatt-hour (kWh), a full 4 cents lower than the average residential electricity price (as reported by the National Renewable Energy Laboratory's PV Watts program). Commercial installations that can also use the federal depreciation tax deduction could deliver electricity for nearly 12 cents per kWh, 40 percent lower than the average residential rate. [Chart omitted] These prices are well within reach. Already in the U.S., aggregate purchasing has driven down residential solar PV prices as low as $4.22 per watt. The average cost of rooftop solar PV installations in Germany is

d. Over 5,000 MW are due to come online by 2015 from renewable energy sources alone. New transmission capacity, such as the 660 MW cross-Hudson transmission line, and energy efficiency savings of 2 percent per year (New York City's peak power use actually declined in summer 2010—one of the hottest on record—due to proactive energy conservation policies), can easily replace Indian Point's 2,000 MW.[4]

e. According to a recent issue of the "Monthly Energy Review" by the U.S. Energy Information Administration (EIA), renewable energy has passed a milestone as domestic production is now greater than that of nuclear power and is closing in on oil. During the first quarter of 2011, renewable energy sources (biomass/biofuels, geothermal, solar, water, wind) provided 2.245 quadrillion Btus of energy or 11.73 percent of U.S. energy production. More significantly, energy production from renewable energy sources in 2011 was 5.65 percent more than that from nuclear power, which provided 2.125 quadrillion Btus and has remained largely unchanged in recent years. Energy from renewable sources is now 77.15 percent of that from domestic crude oil production, with the gap closing rapidly.[5]

f. In October 2011, Synapse Energy Economics, a Cambridge-based research company, confirmed that closing Indian Point will not cause economic problems or electricity shortages in the State. Their report found that Indian Point now makes up only 12 percent of Con Ed's contracted capacity, down from 26 percent in recent years, and provides only 3 percent of New York City's total energy requirements—and just 16 percent of the total amount of electricity that New York City can receive from outside the five boroughs. The report also found that with Indian Point's retirement, more energy efficiency, and reliance on renewables, electric bills would increase approximately one to three percent.

9) Three Parks recommends the following interim steps:

a. Require Entergy to move as much fuel out of the spent fuel pools as possible and into dry cask storage at Indian Point to reduce the accident/fire risk in the pool. This is a simple mitigation measure that will make the nuclear waste storage safer in the short term. It is our understanding that Senator Feinstein has raised this repeatedly in Senate hearings.

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between $3.40 and $3.70 per watt. A new report, 'Democratizing the Electricity System,' shows that even small-scale solar is being built for under $4 per watt in the U.S." http://www.grist.org/solar-power/2011-07-01-new-york-citys-massive-solar-opportunity; ("Solar Panels Still Rare, Despite Glow of $7 Power Bills") http://www.nytimes.com/2011/07/12/nyregion/solar-energy-slowly-grows-in-new-york-homes.html?_r=1&ref=todayspaper

[4] http://www.riverkeeper.org/blog/2011/07/07/riverkeeper-responds-to-ny-times-article

[5] U.S. Energy Information Administration "Monthly Energy Review," June 28, 2011, http://www.eia.gov/totalenergy/data/monthly. The relevant charts from which the data above are extrapolated are Tables 1.2 and 10.1. EIA also released "Electric Power Monthly" on June 9, 2011; *see* http://www.eia.gov/cneaf/electricity/epm/epm_sum.html. The relevant charts are Tables ES1.B, and 1.1.A.

b. Congress should hold hearings or establish an independent commission to review nuclear safety. This would include hearings on the NRC's ability to oversee safety at Indian Point, the storage and disposal of spent fuel, and evacuation planning.

c. The NYS Department of Environmental Conservation should continue to withhold a water permit that the agency withheld in April 2010 because IP does "not and will not comply with existing New York State water quality standards." The current cooling system releases radioactive material (including tritium, strontium-90, cesium, and nickel) from spent fuel pools, pipes, tanks, and other systems into the Hudson River and kills billions of organisms every year, including endangered species.[6]

Fukushima was the warning; the NRC should heed it by denying license extensions to Indian Point.

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[6] www.dec.ny.gov/docs/permits_ej_operations_pdf/ipdenial4210.pdf