RIVERKEEPER
NY's clean water advocate

20 Secor Road
Ossining, NY 10562
March 21, 2011

Westchester County Board of Legislators
Environment and Energy Committee
Michael B. Kaplowitz, Chair
800 Michaelian Office Building
148 Martine Avenue, 8th Floor
White Plains, New York 10601

Re: March 21, 2011 Environment and Energy Committee Meeting on Indian Point

Dear Chairman Kaplowitz,

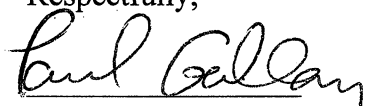
Please find enclosed comments and questions from Riverkeeper regarding today's meeting on the current emergency plans for the Indian Point nuclear power plant. Riverkeeper commends your decision to hold a public meeting on this critical issue so promptly, and fully supports your efforts to obtain accurate and up to date information from Entergy Corporation, the owner of Indian Point, on this matter. I encourage you to utilize the enclosed questions in your discussion with Entergy at today's meeting; Riverkeeper has been extensively involved in raising concerns about the workability of Indian Point's evacuation plans since 2001, and our contribution here can augment the Committee's fact-finding efforts. In light of the nuclear catastrophe still unfolding in Japan following the March 11 earthquake and tsunami, it is imperative that County government officials and the public are fully informed about the adequacy and scope of Entergy's emergency plans, so that any decision regarding the future operation of Indian Point is based on the most current and accurate information available.

As the Committee is aware, the responsibility for developing and implementing the onsite emergency plan begins with Entergy and includes local, state and federal officials, while the final approval of both onsite and offsite plans is the responsibility of the NRC and the Federal Emergency Management Agency (FEMA), respectively. In the past, this division of responsibility has allowed Entergy, the NRC and FEMA to play a game of political football, in which each party attempts to avoid responsibility by referring to the authority of the other to ultimately determine the workability of the overall emergency plan. In light of this experience, Riverkeeper respectfully requests that the March 21, 2011 Committee meeting with Entergy be

followed by meetings with the NRC and FEMA as soon as possible. Meeting with all responsible parties will ensure that the Committee obtains all the information needed to make its own conclusions regarding the efficacy of Indian Point's emergency plans.

Riverkeeper looks forward to actively participating in this process, and appreciates the Committee's commitment to a full, fair and transparent public process. Please do not hesitate to contact me by phone at 914-478-4501, ext 227, or e-mail, pgallay@riverkeeper.org

Respectfully,



Paul Gallay
Executive Director

Cc via e-mail: Bill Burton
Peter Harckham
James Maisano
Sheila Marcotte
Judy Myers
John Nonna
Martin Rogowsky
John Testa

March 20, 2011
Riverkeeper, Inc.

Suggested Questions to Entergy Regarding Indian Point's Emergency Plans

1. In the wake of NRC Chairman Jaczko's directive for all Americans within 50 miles of the Fukushima plant to evacuate the area, will Entergy voluntarily work with the NRC and FEMA to evaluate the feasibility of evacuating the 20 million Americans who live within 50 miles of Indian Point? If it cannot be proved that such an evacuation can be done under a range of reasonable scenarios and fully protect the population at risk, how can Entergy continue to maintain that the plant should be relicensed and operate until 2035?[1]
2. The 2003 Witt Report, commissioned by New York Governor George Pataki, concluded that "the current radiological response system and capabilities are not adequate to overcome their combined weight and protect the people from an unacceptable dose of radiation in the event of a release from Indian Point."[2] At the time, Entergy and the NRC disputed these findings, and the NRC's emergency planning regulations have not been meaningfully updated. How does Entergy respond to the following specific critiques from the Witt report?
    a. **Spontaneous evacuation** – Under the current plan, Entergy, NRC, FEMA and the affected counties would collectively decide whether to evacuate residents from the 10 mile "Emergency Planning Zone" around IP, and in some scenarios would order evacuations of only portions of the EPZ, dependent on which direction radiation was being carried by the wind.[3] The Witt report and news from Japan[4] clearly demonstrate that even residents not directly ordered to evacuate will "spontaneously" attempt to leave the EPZ, or even the 50-mile "Peak Ingestion Zone" around Indian Point, which includes New York City. Does the current offsite emergency plan consider this issue? If not, why not?
    b. **Misconceptions about human behavior in a crisis** – Current emergency plan assumes that parents will not attempt to pick up their children from school, but will leave it to the school district to bus the children out of the evacuation zone in time to prevent exposure, often times by bus drivers whose own children may be in harm's way as well. How does the emergency plan address the likelihood that significant numbers of parents will go to their children's school to pick them up, thereby causing additional traffic congestion issues?

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[1] Note that the NRC's regulations on emergency planning do not contain any performance based standards by which the effectiveness of a nuclear plant's emergency plan can be determined. On the contrary, they are primarily a checklist for establishing communications protocols and assigning specific responsibilities to different emergency response agencies. While these planning guidelines are certainly necessary, they fail to address the fundamental question of whether the public can be adequately protected in an actual emergency. *See* the 16 "Planning Standards" at 10 C.F.R. §50.47(b), available at http://www.nrc.gov/reading-rm/doc-collections/cfr/part050/part050-0047.html

[2] 2003 Witt Report, at pg. viii.

[3] The NRC's continued reliance on a "straight line" plume model that assumes a steady, unidirectional wind flow is at odds with actual meteorological conditions in the Hudson Valley near Indian Point, where the wind direction is known to shift frequently from north (blowing towards New York City) to south.

[4] http://www.nytimes.com/2011/03/18/world/asia/18displaced.html?ref=asia

c. **Special needs populations** – Does the evacuation plan have specific measures to safely and quickly evacuate special needs populations (elderly in nursing homes, hospitals, disabled living in group homes) from the 10 mile EPZ? During Hurricane Katrina, significant numbers of elderly residents were left to fend for themselves, and a similar situation has now developed in Japan[5].

3. Questions re: Emergency planning exercises
   a. Has Entergy ever conducted an emergency exercise based on an earthquake and loss of offsite power to the plant? If yes, what magnitude of earthquake, and where did it strike? If no, why not?
   b. Has Entergy conducted an emergency exercise based on a loss of offsite power ("LOOP" accident) from other unintentional and intentional causes, e.g. flood, storm surge from a hurricane, or terrorist attack? If so, has such an exercise considered the failure of the diesel generators, and the inability to use the service water system because of damage or power loss ("station blackout") for extended periods of time? What is the longest period of time without offsite or emergency backup electrical power (from generators or otherwise) that has been considered in an emergency drill?
   c. Has Entergy conducted an emergency exercise based on an accident or intentional attack on the spent fuel pools, rather than the reactors themselves? (Note that the spent fuel pools are not protected by the containment domes, but are located in basic industrial buildings next to the reactors. Each pool contains approximately five times as much radiation as its companion reactor.)
   d. What about the two large, highly-pressurized natural-gas lines that run within 150 meters of critical Indian Point structures? Are the risks of rupture and explosion from corrosion, sabotage or earthquake fully taken into account in Indian Point's evacuation planning?

4. What level of flooding onsite is Indian Point designed to withstand? Does this take into account projected sea level rise on the Hudson River, as detailed in the recent Sea Level Rise Task Force report by New York State?[6] Does it take into account potential flooding from a hurricane storm surge? If so, what degree of hurricane is Indian Point designed to withstand?

5. Are the emergency diesel generators currently located above the level of the peak expected flood at Indian Point? Do the emergency diesel generators require service water cooling to operate? What power supply is available to cool the reactors and spent fuel pools if the diesel generators are not operable? Without electrical power cooling the spent fuel pools, how long would it take for the temperature of the water in the pools to reach the boiling point? How long before the fuel in the pools would be uncovered?

6. Additional Questions regarding Indian Point's safety and environmental record

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[5] http://www.nytimes.com/2011/03/19/world/asia/19stranded.html?scp=1&sq=elderly%20and%20infirm%20left%20behind%20in%20evacuation%20zone&st=cse

[6] New York State Sea Level Rise Task Force Final Report, at http://www.dec.ny.gov/energy/67778.html

a. Given Indian Point's age and numerous serious operational problems, including an unusual number of unplanned shut-downs; two major transformer explosions and fires in the last 3 years, leading to emergency shutdowns; leaks from spent fuel pools, corroded pipes and refueling areas; isn't the plant's ability to withstand an earthquake or other disaster further compromised beyond its original "design basis"?
b. How many exemptions from the NRC's fire-protection regulations has Entergy applied for since it took ownership of the plant? How many were granted by the NRC?
c. What is the status of the following long-term safety issues at Indian Point?
    i. Leaking refueling cavity since 1993
    ii. Containment sump blockage
    iii. Electrical cable separation and flooding/submergence of cable vaults leading to cable damage