

Summary of Clearwater's Environmental Justice Contention Testimony at Indian Point Relicensing Hearings in front of Atomic Safety Licensing Board October 23, 2012

Clearwater's Contention: Clearwater asserted that neither Entergy's Environmental Report (ER) nor the Final Supplemental Environmental Impact Statement (FSEIS) prepared by the Nuclear Regulatory Commission (NRC) Staff analyze the disproportionate impact that a nuclear release at Indian Point would have on environmental justice populations (low income, minority, disabled, infirmed) and do not adequately discuss any mitigation that that would limit exposure

At hearing before the Atomic Safety Licensing Board (ASLB) panel of judges, the NRC Staff acknowledged they did not take into account potential disparate impact on elderly, disabled, mobility impaired and prison populations in the event of a radiological release in their environmental impact statement. Also, in considering the Environmental Justice (EJ) impacts if there is a relicensing, NRC did not do an analysis of disproportionate impacts of a severe accident, because they viewed the risk of accident as small and they viewed it as outside the scope of their guidance.

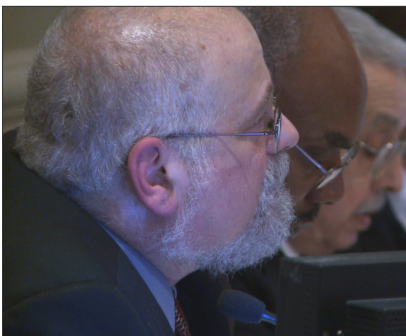
Clearwater Witnesses: Armed with four volumes of pre-filed testimony, Clearwater's nine witnesses presented their case.

Dr. Michael Edelstein: Dr. Edelstein, an Environmental Psychologist and professor at Ramapo College, commented on his experience understanding the relationship between people and the surrounding environment, and stated that the NRC needs to take a closer look at the impact that an accident at Indian Point would have on communities in the area that are not accurately represented in the census blocks. Dr. Edelstein referred specifically to the various evacuation plans that have been developed and indicated that there is a need to make sure that these plans account for all populations.



"If we take the [10-mile] emergency planning zone and we take the larger [50-mile] zone, the point is that the staff, in preparing the document, I believe has an obligation to have enough familiarity with the social system that they're working with, to recognize environmental justice issues that may not be visible in the type of analysis that's done now."

Dr. Edelstein said the NRC Staff totally missed an EJ analysis (potential disparate impact on minority and low income populations) because they didn't do population analysis, and simply relied on census data. An NRC report on EJ, CW Exhibit 51, suggests that it is important to take a "hard look" at EJ populations and accommodate the needs of this particular community. As the oversight agency, the NRC must look more carefully at the subgroups are within the population to see how they may be impacted by relicensing and must assess any adverse impacts that might result from a radiological event. A proper social impact assessment would not miss something as so obvious as Sing Sing prison in Ossining. The NRC must identify the EJ populations, and analyze the impact on those populations. Simply putting the population on a map and not taking into account potential effects doesn't make any sense.



The NRC Staff failed to take into account how minority populations at Sing Sing and other area jails in doing EJ analysis would they be impacted. Differences in evacuating prison populations are great; people who are incarcerated have no volition over whether to evacuate; they must trust authorities to evacuate them. Prisoners and guards may think that there's a radiation release and even if there isn't, and you could have a serious breakdown of social order. The American Civil

Liberties Union (ACLU) did an excellent report on Hurricane Katrina and what happened in jails there. Mistreatment, escape, racism -- these create risks beyond just dose. Health risks are beyond just radiation exposure, and include violence. Looking at health in this broader sense, there is a major health impact. Health risks from dose, plus health risks from breakdown of social order, which is likely to occur in a prison setting.

With regard to dose, the ER and FSEIS failed to consider if prisoners would be at higher risk in the event of a radiological release. This population would not be evacuated; they would shelter in place, so their dose implication is maybe tenfold. In the case of Fukushima and Chernobyl, the intense period of those events lasted 10 days. If sheltered in place for 10 days, the impact would be very significant. Whether and when they would be evacuated are huge questions. The Japanese had good plans, and what was learned from Fukushima is that the best-laid plans go awry and the prisoners would likely be there for a very long time. We can assume that this population would have a higher and disproportionate impact. With regard to mitigation, Dr. Edelstein suggested that, since we know the prison population would be held in place, doing an assessment of whether Sing Sing can serve as a shelter -- i.e. would prisoners and staff be properly sheltered with adequate protection and ventilation -- is an important first step.



Anthony Papa: Tony Papa, a former inmate, who, under the Rockefeller drug laws, served twelve years of a 15-to-life sentence in Sing Sing prison, just seven miles from Indian Point. Speaking from direct experience he commented on the inadequacy of shelter in place for residents of correctional institutions in the areas surrounding Indian Point, pointing out that Sing Sing would be inadequate because of the age of the buildings, the lack of ventilation systems, overcrowding and other problems with evacuating and protecting prisoners.

Built in 1826, Sing Sing has huge windows, which prisoners break all the time. He predicted that under the stress of a nuclear accident total anarchy would break out.

" You can't shelter in place. I lived there for 12 years. The survival instinct would lead to total chaos. These people are in jail for a long time and have nothing to lose. It's very likely that there would be a breakdown of social order. Just a stabbing causes the whole population to go berserk. If something like [a nuclear event] happened, the predatory prisoners would take advantage of others and they'd try to escape. The prisoners would try to take over. It would put everyone at risk -- including the guards. Inmates would start fires; light their beds on fire. If one person did it, it would likely spread to others."



Clearwater Exhibit EC-3A CLE000019: Tony Papa Artwork
Metamorphosis (Indian Point visible at distant shore)

<http://www.15yearstolife.com/art1.htm>



Hudson River Viewed from Sing Sing

Dr. Erik A. Larsen: Dr. Larsen is Director of Emergency Medicine at White Plains Hospital and a nationally renowned Emergency Medical Response Expert, who headed up the medical response efforts after Hurricane Katrina, set up at the New Orleans International Airport. Dr. Larsen has also had the experience of treating a patient at Westchester Medical Center at Valhalla, who had sustained a foot injury in an accident in the hot zone at Indian Point. Decontamination required 60 staff working for over four hour, while all other emergencies were rerouted to other facilities. One patient; one injury. What would happen in the case of multiple patients, some with multiple injuries? Dr. Larsen testified that if there were a hazardous accident at Indian Point, the availability of adequate medical care would become rapidly overwhelmed locally and could decrease in surrounding areas as well. He gave the example of hospitals not having enough staff as a result of the emergency. Without available medical care, individuals lacking funds or transportation would be unable to leave for medical treatment at another hospital, which would disadvantage them in both the short and long term. In the event of nuclear event at Indian Point, there would be less medical care available as a result of the incident, and the people without funds would be disadvantaged because they couldn't leave and they wouldn't be able to get adequate care. People who need special equipment -- respirators, special devices -- these special needs populations would be severely disadvantaged. They wouldn't be evacuated; they would likely get higher doses of exposure.

"You know, one of the problems that certainly would face us in any kind of an emergency situation involving Indian Point is whether we would have even the staff to take care of folks, because people would be concerned about their own families. We all live within the 50-mile evacuation zone. If I wasn't at home, I would have many concerns about my own family -- this is true of all first responders. When our own family is affected, this is what determines if people show up to work the next day, or even when incident occurs."

With regard to Environmental Justice, poor minorities and other low-income people wouldn't be able to be evacuated -- this was the problem in New Orleans. People didn't have a car, they didn't have phones, and they couldn't afford a hotel room once they escaped. **"You need car, you need cash and you need food,"** he stressed. 40,000 people were left behind in New Orleans after Katrina. They were mostly poor, without transportation, hospitalized, or institutionalized. He expressed very large concerns about this population with an event at Indian Point.

"As an Emergency Room doctor, we are required to take care of everyone. But there are many things we can't fix. How do we get follow up for people without insurance without adequate funds? They get ER coverage, but frequently they don't get the follow-up care if they don't have the resources."

Dr. Andrew Kanter: Dr. Kanter discussed surge capacity within the New York health care system, which is the amount of health care resources and hospital beds available during emergency situations. He stated that the system is already run at or near maximum capacity. Dr. Kanter also said that the idea of residents sheltering in place would not work from a health standpoint in a situation involving radiation, and that there is no cutoff under which there is no danger from radiation exposure. He noted that people in EJ communities generally have higher health care burdens. If patients are required to move from existing health facilities in the event of an emergency, they would likely be very severely effected, not by the time they were not being cared for, but because it may be difficult to find adequate space where they could be moved and the process of doing so could cause adverse health effects.

"So, the analysis that we put into the testimony demonstrated that there is just not enough capacity within the current system. And, therefore, those patients who are most at need, most dependent upon medical care would suffer the most."

Dr. Kanter also spoke of lessons learned from Fukushima and Chernobyl -- that radiation exposure is ongoing beyond the initial exposure after the plume has passed -- "that these things do not go away and, therefore, it's not just a matter of the acute exposures perhaps to Iodine-131 in the plume, but that cesium and other radioisotopes get deposited in the ground, in the groundwater, in the food supply and, therefore, you don't ultimately remove the need for evacuation." So, by sheltering in place, not only are

people potentially being exposed to these other forms of contamination, but also the need to remove people out of a contaminated environment continues to persist.

Dolores Guardado: Ms. Guardado is a Peekskill resident and native Spanish speaker who has lived in the area near Indian Point for the past five years. She works as a home health aide and offered testimony with the assistance of a translator. Her testimony focused on the need to communicate effectively to non-native English speakers during emergency situations. Ms. Guardado said that the large number of native Spanish speakers in the Peekskill area might not understand emergency instructions given only in English, and described the difficulties that a lack of English fluency can present when communicating important information about the Indian Point plant. Although Ms. Guardado is actively studying English, she can understand it far better than she can speak at this point, however many others in her community have an even more limited understanding. Ms. Guardado also addressed the



lack of effective distribution of emergency plans and evacuation planning information in Spanish. To this effect, Ms. Guardado testified that, even after learning of the existence of a Spanish version of an emergency plan for Indian Point when joining the relicensing case as a witness and making an effort to identify such document in the community, she has been unable to discover this document.

"As far as I'm concerned, there's a big impact, in that the people do not understand English in the way that I do."

Aaron Mair: Aaron Mair grew up in Peekskill and spoke as an expert on Environmental Justice – in fact, as a founder of the Environmental Justice movement. Mr. Mair spoke in detail about the concept of environmental justice – what it is and what it is not. He stressed that that low-income and minority groups in the area often face a heavier burden in terms of health and other risks because of their proximity to negative amenities, which can also create additional exposure to hazardous materials. He stressed that more effective plans for residents to evacuate the area in the event of an emergency need to be implemented if Indian Point is to be relicensed.



"If you consider relicensing, you must mitigate the harm. You can't just have a checklist and say you did it. You must have the planning and do it."

Mr. Mair stressed that if you are low income, predominantly minority, it is more likely you will be burdened with negative amenities such as: sewage treatment, burn plants, nuclear plants, etc. He said that there is a heavy burden is on poor, disempowered groups, which lack money and are politically disenfranchised. Even if you control for other factors, EJ populations can still be disadvantaged simply because of race. Environmental Justice is NOT environmental affirmative action. Any group of black people can be disadvantaged -- poor, middle income or rich. It can also include geographic poverty in Appalachia.

The Peekskill border is about 1.5 miles from Indian Point. Indian Point is "the tree on the front yard of Peekskill." It's what people see when they come into the community. Westchester is a very rich county, but there are these interesting pockets, such as Peekskill, which has become an environmental dumping ground – sewage, waste treatment, etc. Yorktown dumps its sewage through Peekskill into the Hudson, so, for example, Peekskill is the regional sewage site.

He also focused on institutionalized populations, which are at greater risk because of Indian Point, including schools, hospitals, housing authority housing, nursing homes and prisons. He pointed out that looking at census numbers doesn't provide anywhere near sufficient information.

Evacuation: If there is an incident, he said, you can't leave Peekskill from the south because you'd be going toward Indian Point, and toward the denser part of the county. If you head west, there's the Hudson, so it's no option. To head northwest, you'd find that Route 202/6 becomes a narrow, two-lane, windy road, with switchbacks and hairpin turns. You can't go this way. The other viable route is Route 202/6 East -- these routes are wider, four lanes, but here you'd be heading through a heavily populated suburban population.

Patterns of vehicle ownership: Peekskill is heavily dependent on public transportation, but this mostly heads south to White Plains and NYC. The public transportation is designed to take people into harm's way. Some working class folks have a car, but it's often of inferior quality, with higher potential to breakdown on the road, while trying to evacuate.

Mitigation: Mr. Mair recommends investing in enough public transport to be adequate for emergency transport. The plan should look at size of school populations, institutionalized populations and public housing populations -- how would they be moved? The potentially impacted area should have sufficient capacity to move people safely out of harm's way. Fukushimas and Katrinas do happen, and the poor will be hurt. *How do we transport people? How do we safely shelter in place?* These questions must be evaluated. You must have the planning and do it. At a minimum, there should be a civil defense type system to move people and protect them. There should be receiving areas that are safe shelters and adequately stocked with food, water and other necessities. There are things we can proactively do; they are the right and humane things to do.

John Simms: John Simms, a resident of an assisted living community in Cortlandt, communicated the problems that he sees affecting elderly residents living in the area near Indian Point. Simms focused on residents of nursing homes or assisted living facilities, and stated that many elderly people in these types of living situations have sight, hearing, cognitive, mobility and other impairments that represent a significant obstacle to emergency evacuation.

"Unfortunately, this is not going to be of much help to us in the event of an evacuation because to my mind, or to my knowledge, I know of no way that they could evacuate us."

Mr. Simms pointed out the need for medication and that if it were possible to evacuate people from assisted living facilities and nursing homes they would need to bring medications and, in many cases, have someone to reliably administer the medications to them, which may be critical to their health. Mr. Simms himself has congestive heart disease, and although he is ambulatory, he gets out of breath easily and must move slowly. Ninety percent of the residents at the assisted living facility he lives with depend on walkers and wheelchairs. Many have difficulty comprehending instructions. He also expressed concerns about staff, who don't live on site, coming to work in case of emergency since they would have their own families to care for and might not be able to get to work if roads are gridlocked.



Stephen Filler: Steve Filler is an attorney and Clearwater Board member who has worked on this contention since its initial filing five years ago. Mr. Filler testified to establish that the evacuation plans for New York State, Westchester County and Rockland County themselves demonstrated that there would be a disparate impact upon environmental justice communities in the event of a radiological incident at Indian Point.

"There is a likelihood that environmental justice populations, including prison populations, and physical and mentally disabled, immobile and infirm populations, will be treated disparately by being sheltered in place when they "should be evacuated" and are likely to be exposed to rem limits far in excess of what the evacuated population would be exposed to."

Mr. Filler also testified that the plans do not indicate how these populations will receive water or food, how the shelters will be safely ventilated, and do not provide for adequate vehicles or personnel to achieve the necessary evacuations.

Manna Jo Greene: Clearwater Environmental Director, Manna Jo Greene, organized a team to interview institutions that served EJ population near Indian Point including nursing homes, Headstart programs and homeless shelters. She that many low-income residents in the area do not have access to personal transportation and noted that these groups could face significant problems while having to wait for transportation out of the area during an emergency, which could cause them to be exposed to hazardous conditions for unknown periods of time. Ms. Greene also spoke about potential complications that could result from pre-disaster vulnerabilities faced by some in the population, such as residents with medical conditions, and pointed out the negative health effects that could result from years or decades of exposure to environmental hazards at Indian Point. In speaking about people who would be waiting in lines at emergency bus routes for an indeterminate amount of time, she noted:

"They're not sheltering in place and they are not being transported. They are waiting and being exposed.... that's something that hasn't adequately been considered in the discussion so far."

Ms. Greene also emphasized that neither Entergy's Environmental Report nor the NRC's Final Supplemental Environmental Impact Statement considered synergist effects or cumulative impacts on EJ communities from relicensing. For example, we know that EJ communities in and around Peekskill are eating Hudson River fish, in spite of NYS health advisories for PCBs, mercury and other contaminants. All of Westchester County's garbage is burned at the Charles Point incinerator in Peekskill, and dioxin and benzofuran emissions from the burn plant, along with PCB exposure, are known to compromise immune response. How, she asks, will these pollutants, along with ongoing planned and unplanned releases of radioactivity from Indian Point, impact especially vulnerable EJ communities, if the plant is relicensed for another 20-years?

Special thanks to Clearwater Board members, Steve Filler, Ross Gould, Susan Shapiro and Dr. William Flank, to our wonderful volunteers and consultants: MJ Wilson, Jonathan Stanton, Phil Ehrensaft, and to our dedicated and talented interns: Sara Kelland, Patrick Carroll, Alex Santa, Abel Hurtado and Melissa Coltun – without whose help we would never have been able to develop such a groundbreaking contention.



Ancient evacuation plans: A sign along Route 9 in Ossining, NY, marks the spot for an emergency bus stop that is part of the Indian Point nuclear plant evacuation plan. Clearwater Exhibit EC-3A CLE000056 *Mail Online: An accident waiting to happen?* Populations around U.S. nuclear plants have grown 450% since 1980 (June 27, 2011). Read more: <http://www.dailymail.co.uk/news/article-2008891/Ancient-evacuation-plans-A-sign-along-Route-9-in-Ossining-NY-marks-the-spot-for-an-emergency-bus-stop-that-is-part-of-the-Indian-Point-nuclear-plant-evacuation-plan-Clearwater-Exhibit-EC-3A-CLE000056-Mail-Online-An-accident-waiting-to-happen-Populations-around-U-S-nuclear-plants-have-grown-450-since-1980.html#ixzz2Bwr7R8Gk>



Clearwater's crackerjack legal team, Richard Webster of Public Justice and Karla Raimundi, Clearwater Environmental Justice Associate.