

IPRenewalCEmails

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To: Andrew Stuyvenberg
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Drew Stuyvenberg

Project Manager

U.S. Nuclear Regulatory Commission

Eileen Kopec's Comments 3/1/09

I am Ramapo college student participating in the Environmental Assessment class.

In reading the draft DSEIS Supplement 38 for the license renewal of Indian Point that is directly written for this facility I got an appreciation for how complex the whole license renewal process and procedure is. Many issues have to be taken into account such as environmental impacts, health, safety, economics and environmental justice affecting minority populations. I have been instructed to not only read the documents to see what is there but to peruse them to see what is not included. Having limited experience with documents such as these I felt it would be a daunting task. I knew in order for me to have a better understanding of these documents I needed to have a different approach other than reading cover to cover. To attack them with some kind of order I decided that after reviewing them I would first read each introduction, summary and conclusion. Then I went back to look at the ecological effects as my indicator of study is fauna. I know that I cannot look at biological effects without also incorporating the functioning and upgrading of the plant and also addressing the water issues too. The GEIS was prepared in 1996 making it more than ten years old. In light of that fact one needs to check other sources of information to make an informed decision.

To get a better handle on some of the issues our class brought up I looked at the previous meetings that were held during the scoping part of the relicensing procedures. After attending the hearing on the DSEIS on Thursday, February 12, I came to the conclusion that although certain issues were brought to NRC's attention last year they were still being discussed at this hearing. This led me to believe that certain issues will remain off the table even though they are of serious concern. Instead of erring on the side of precaution we are a 'risk assessed' society accepting certain standards in light of advanced technology. Our class discussed that the regulations of NEPA state that a 'hard look' needs to be taken when significant changes or developments are addressed relating to environmental impact statements. Since this term is loosely defined it is anyone's interpretation as to what a 'hard look' signifies.

My conclusions are that if we are to take this 'hard look' some of the regulations themselves have to be examined. Allowing a relicensing which in a sense is a 'new license' to Indian Point ageing factors must be considered. With an ageing facility there is no assurance that the problem of leaking pipes will not exacerbate to even larger proportions in the near future. Just recently on February 19, 2009, workers had to contain a leak located around the welding joints of some pipes. The NRC, in discussing this recent leak states that the piping is lined with a protective coating so minerals in the water will not corrode and put pin holes in the piping, but the welded

joints are not coated. There are miles of piping under the plant that are not easily accessed. Leaks might not be found until it is substantial enough to be detected.

The leaks of radioactive strontium-90 and tritium have effects and bioaccumulate, and the means of measuring it with an outdated system using a young adult male leaves out much of the population. Strontium is the most hazardous bone-seeking element because it resembles calcium and has a half-life of 28 years. It is easily taken up by the body and concentrates in bones. Because it bioaccumulates and travels to new cell division in early stages of human development it mutates a hundred fold. This may be the reason radioactive leaks are considered to cause an increased risk of leukemia, other cancers, autoimmune diseases, and endocrine disruptions that do not become apparent until many years later. A recently published study in Suffolk County, Long Island, which is located near a nuclear power plant, shows that a single picocurie per gram of calcium in recent baby teeth is associated with nearly a doubled risk of childhood cancer, about three times as serious as the Strontium-90 in baby teeth measured in the early 1960s in St. Louis that originated from high altitude H-bomb tests when fallout came down from the upper stratosphere over a period of years. The reason for the increased risk per picocurie of Sr-90 near nuclear plants as compared with high altitude H-bomb tests is that many short lived radioactive isotopes can be inhaled following repeated routine batch-releases or steady leakages from corroding steam generators, pipes and valves since winds carry the airborne emissions to nearby towns and large cities in a matter of only a few hours.

(J.M. Gould. "Strontium-90 In Deciduous Teeth As A Factor In Early Childhood Cancer". International Journal of Health Services. Volume 30, Number 3/2000)

If Entergy is giving us the assurance that the operation of Indian Point has no correlation to the increased cancer rates in the region the burden of proof should be on their shoulders. Blaming it on previous bomb fallouts only gives credibility to the fact of bioaccumulation.

Entergy discovered that the groundwater around IP2 was contaminated with tritium and monitoring wells were put in place for leak detection of the spent fuel pools. Entergy's investigation claims that the only dose pathway of the contamination reaching the river is through the consumption of fish from the river. They also claim that it could not affect drinking water as no drinking water exposure pathway exists. Entergy agrees that this could potentially be considered a new issue.

Entergy states that the leaks do not affect drinking water, but there are drinking water sources close the plant. The Hudson River is tidally influenced leaving the question about the effect that water flow has on dispersal of radioactive material. Leaks from Indian Point 1 that has been shut down haven't been fully addressed. When IP1 was permanently shut down it was stated that all spent fuel was removed. It seems this reactor is just being left in what is termed 'long-term storage.' Entergy's plan to decommission this reactor isn't expected until Indian Point 2 is decommissioned. This could be a long wait period if relicensing is granted.

Subsistence fishing is also in question as some people eat fish from these waters for economic reasons. There have been leaks from the spent fuel rods emitting Strontium 90 and Tritium in the Hudson River. Knowing that Strontium 90 settles in the bones of fauna, people who eat the

fish could be unnecessarily exposed. Records would need to be checked to see if there are any substantiating facts stating how many people still fish the Hudson River on a subsistence level. It would need to be surveyed to see, if indeed, that fish advisory signs are placed along the Hudson and, as many subsistence fishermen do not have English as their first language that the signage is presented in languages other than English. It should be noted that the Hudson River is already on the EPA list of impaired waterways because of the presence of PCBs. From what has been reported fishing restrictions have already been in place.

Addressing one of the critical environmental justice issues is one of evacuation of people. Procedures are highly inadequate to pretty much non-existent. The Witt Report of 2003 states that evacuation would be extremely difficult if not impossible. (James Lee Witt Associates, Washington D.C.) Many of the infirm, people below poverty level and prisoners within the 50 mile radius would have difficulty leaving their facilities. Evacuation is not even in the protocol for the prison systems.

It has been said that nuclear power does not contribute to air pollution. When compared to coal-fired power plants this seems to be true. From an environmental justice standpoint, the whole fuel cycle needs to be taken into account to include the mining of the uranium, as most of the mining seems to be done on Native American land. This brings up air pollution issues, importantly the problem of halogenated compounds being put into the atmosphere during the mining process.

At the draft hearing of the SEIS and the past scoping hearings the subject of spent fuel rods and nuclear waste discussions came up each time. It seems that this is also not a condition for relicensing. Storage of wastes is usually onsite as no federal repository has been decided upon. The capacity for storage at any nuclear facility is limited. No one can answer the question of how much energy it is going to take to make nuclear wastes safe nor has anyone figured out a way to do it. Although we are a risk society a mistake at a nuclear power plant is not a localized crisis but one that can cause long-standing, widespread potential damage. One of the points to be brought out is that Indian Point was built on a fault line. Storage of wastes at this particular site could have major repercussions if the tri-state area suffers a significant earthquake.

Looking at my ecological indicator I have noticed that there have not been any studies confirming that certain endangered species are not present. A few examples of terrestrial species are the Indiana bat, bog turtle and the New England cottontail. The bald eagle, although it has been delisted, still is a species of 'special concern' and is known to nest in the vicinity of Indian Point. Many fish species are impacted by the cooling system. IP's cooling systems before 1991 monitoring data showed impingement mortality to most fish species to be 100 percent. The endangered short-nosed sturgeon has been impinged on the intake screens in the past. Separate studies were conducted to see if the addition of the modified Ristroph screens to the cooling system would decrease impingement mortality for some species. This problem has been mitigated using this screening, but no studies have been done onsite since the installation of these screens back in 1990. Entergy acknowledged that it did not monitor impingement rates nor validate impingement mortality estimates after the new Ristroph screens were in place.

4.1.3.4 The NRC acknowledges that the lack of this data yields potential uncertainties for the current impacts and used a Weight of Evidence (WOE) evaluation on the Representative Important Species (RIS) showing potential adverse impacts in the 'moderate to large' category. WOE is an organized process for evaluating information or data from multiple sources to determine whether there is evidence to suggest that an existing or future environmental action has the potential to result in an adverse impact. It has also been stated that some fish, specifically the bluefish are doing well. The DSEIS document fails to mention that the reason some fish are doing well is because their predators are in decline. The question is why did the monitoring stop? Approximately 18 years of data was never collected.

NYSDEC (2003a) states that while improvements to IP2 and IP3 cooling system including the use of dual-speed and variable-flow pumps and the Ristroph screens improve conditions there is still significant unmitigated mortalities from entrainment, impingement and thermal effects and should be mitigated with Best Technology Available (BTA) if it is economically feasible. To help mitigate these losses the NYSDEC states that the SPDES permit requires the construction of cooling towers if an applicant seeks to renew the operating license. There seems to be some disagreement trying to strengthen the Clean Water Act 316(b), and the addition of cooling towers is still being argued in the courts and is not mandated at present. This is not a condition of relicensing but a permit issue after relicensing.

Upon looking at Volume 2 of the SDEIS reading the environmental issues specifically for the Indian Point facility one might conclude that the studies are current. When checking some of the references I have noted that most studies are before 1990.

In Appendix E of the Supplement 38 the thermal impacts were evaluated. Even though the NYSDEC SPDES 2003 permit has strict guidelines on the temperature of the discharge waters the computer modeling indicates that the thermal discharge from IP causes water temperatures to rise more than allowed. The NRC staff agrees that they cannot quantify this and so is unable to determine the extent that the short-nosed sturgeon population could be affected.

I would like to make the argument for addressing aging management as a condition of relicensing by using an analogy to explain concern over the aging facility's pipes. We all know the correlation between groundwater contamination and old rusted home heating oil tanks. New home construction is required to have above ground oil tanks with a built on catch basin attached to prevent a leak of home heating oil. This measure has come about due to the aging underground oil tanks that are starting to rust after being under the ground for 40-50 years. Homeowners are responsible if a leakage occurs before the problem is rectified. I have known of numerous communities that had their drinking water condemned due to this. Homeowners are now required to dig up their existing tanks and replace with above ground ones. What I am stressing here is not which is more serious, but the aging of material used needs to be addressed. Relicensing for another 20 years will add more 'what if' scenarios not knowing how often leaks will occur.

Alternatives evaluated gave heavy credence to using coal or natural gas if Indian Point were to be denied licensing. Renewable energy was considered to be inadequate. Transitioning to any new energy source that is not already in place will be considered costly or inadequate.

It was clearly seen at the hearing that the host communities of Indian Point have been given a false sense of security right from the beginning. Entergy has built themselves up as a good neighbor that supports the community. This definitely affects the way this energy plant is viewed by the local people. The biggest environmental injustice seems to be tweaking the data to give false assurances making the problems seem insignificant. Downplaying the incidents sure makes it hard for the people affected to be willing to relinquish their 'bread and butter'. The state of New York is opposing the relicensing of Indian Point due to its history of problems. This has to tell you something. According to the New York Times this was the first time a state ever called for the closing of a nuclear power plant.