

From: "Mannajo Greene" <Mannajo@clearwater.org>
To: "Bo Pham" <BMP@nrc.gov>
Date: 10/10/2007 4:26:45 PM
Subject: Transcript of text from Clearwater's 9/19 public comment and request regarding extension of written comments
cc: <stephen@stephen.com>

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Bo Pham:

I would like to request a one or two week extension past 10/12 for Clearwater's more extensive public comments. I believe you said in a few cases this would be possible, if requested.

Also, attached is what I wrote and read on 9/19 at the public information sessions, but it was handwritten, so I did not turn it in. There was a bright light in my eyes and my notes were in the dark at the podium, from my height, so I may have missed a few points or ad libbed a bit, but this is the essence of what we meant to say. Please accept this as comment and pass on to the transcriber, if they are of value.

Many thanks.

Manna

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Talking Points for NRC's September 19 Indian Point Public Scoping Session

The focus of the September 19, 2007 on the relicensing of Indian Point will be the scope of the **environmental issues** that NRC should address in the Draft EIS it is preparing, under requirements of the National Environmental Protection Action (NEPA), on Entergy's application to relicense Indian Point 2 & 3 for an additional 20 years. These plants were built in 1974 and 1976; their current license will expire in 2013 and 2015, respectively.

In addition, NRC will be accepting written comments on environmental issues and safety issues related to the effects of aging on safety-related components and structures by mail or email through October 12, however the deadline for filing a formal intervenor petition on either safety or environmental concerns ("contentions") is October 2. Many requests to extend the comment period or the filing deadline for this hugely complicated issue have been denied.

Under current law, the NRC interprets the concepts of environmental and safety issues related to the requested 20-year extension extremely narrowly.

Background of Relicensing Regulations: A bit of historical background may help here. When nuclear power plants were first sited and built, they were permitted for forty years. After about 18 years, the nuclear power industry realized that their investment was time limited and prevailed upon the NRC to promulgate regulations to assure an extension of their facilities' lifespans. Over the years, the industry has lobbied to successfully narrow the issues that can be considered under the relicensing process, and, in fact, NRC has never denied any relicensing application. In one case, Maine Yankee __ decided to withdraw their application and close the plant, due to the high costs of meeting NRC's requirements for re-permitting the facility. A few years ago, the NRC also changed its rules to limit meaningful public participation in the relicensing process by eliminating the right of interveners to (1) have public on-the-record hearings with sworn testimony or (2) to cross-examine or challenge witnesses of plant operators/NRC, despite the fact that it is to the NRC's advantage to have the best available information by which to develop appropriate criteria and on which to base their final decision.

The NRC has allowed the parent company, Entergy Corporation, to combine its application for two separate LLCs: Indian Point 2 LLC and Indian Point 3, LLC, in spite of the fact that this \$10 billion corporation elected to let its New Orleans LLC subsidiary file for bankruptcy after the Katrina disaster, rather than lend it the money needed for repairs.

Environmental considerations include, but are not limited to:

- Wildlife and Fish
- Water and Air Resources
- Historic or Cultural Resources
- Taxes, Community Development
- Environmental Justice
- Land Use
- Human Health
- Hydrology
- Seismic Hazards

Water Pollution: Discharge effluent into the River must meet state of the industry and cooling towers must be installed to meet federal EPA standards.

13. **WATER POLLUTION**

Radioactive Leaks: Unplanned, unmonitored leaks of liquid radioactive effluents, including tritium, strontium 90 and cesium 137, are leaking from Indian Point into the groundwater and Hudson River. They raise concerns in both areas: safety and environment/public health.

Much of the duration, extent, flow paths, and/or source of the leaks, remain unknown. To date, leaks have been discovered throughout the IP 1, 2, and 3 complex, from reactors, fuel pools, storage tanks, etc. This problem cannot be remediated until all sources have been identified and/or located. Actual and possible sources include failed or degraded pipes which transport liquids or steam, cracks in spent fuel pools, failed or degraded valves, failed welds, pinhole leaks, failed or degraded gauges, failed or degraded fuel transfer tube sleeves, failed or degraded steam generator tubes, inadequate or improperly operating drain systems, or cracks and fissures in reactor domes. The fact that these leaks were determined by accident, rather than on routine inspection, indicates that routine inspections alone do not guarantee plant safety.

Site Leak conference and summary:

Seismic Hazard: Indian Point is located on the ___ fault. Seismic hazard analysis is generally based on a combination of earthquake data, geologic data on active faults, and on tectonic modeling ("Seismic Analysis"). IP is situated virtually at the intersection of two major earthquake belts. Despite this reality and concerns expressed by experts at the Lamont-Doherty Earth Observatory of The Earth Institute at Columbia University, the NRC has failed to conduct a Seismic Analysis of the IP site. This is particularly outrageous, as many of the originally installed seismic detection components installed back in the 1970s have ceased functioning, and/or are providing no longer reliable data.

Critically, there have been reports that the reactor dome of IP reactor 3 was built 3.5 feet beyond the bedrock. If this is true, it creates a significant risk of reactor collapse in the event of an earthquake.

The high-density spent fuel pools and dry cask storage facility are also likely to be at risk in the event of an earthquake. (Notably, the HOLTEC casks being used by the licensee are designed to withstand only a 4.5 quake, which is less than the DP at 5.5., which itself may be inadequate.)

The NRC must take action to ensure that a competent and independent authority on seismic research conduct an updated and peer reviewed Seismic Analysis for IP.

Some of the other areas related to the **safety** of aging components are:

Steam Generators: Indian Point has long been plagued by steam generator problems, which are indicative of ongoing equipment malfunctions and/or maintenance program inadequacies. The plant was closed for eleven months in 2001, secondary to steam generator rupture. In April 2007, IP-3 was forced to be taken off line when low water levels were detected in that plant's steam generators due to a malfunctioning boiler pump control. In May 2007 a malfunctioning water valve in an IP-2 steam generator caused another unplanned e shut down of the plant.

Add in comments regarding steam generator inspection from IG meeting.

Pumps and Cooling System: Indian Point has been plagued by a host of pump and cooling system problems, which are indicative of a wider level of deterioration in these safety-critical systems. For example, in February 2007, cooling water levels at IP 3 dropped precipitously, due in part to debris from the Hudson River clogging intake structures. The licensee labeled the amount of debris "significant" and an Unusual Event level emergency was declared. Significantly, the last time the screen involved was cleaned was in November of 2005 – another example of the failure of the plant's regular maintenance program to predict problems and assure safe operation.

Pipes and Valves: Pipes and valves are aging and vulnerable to leakage and failure.

Fires and Electrical System Hazards: In spite of NRC required maintenance plans and inspection procedures, Indian Point has experienced numerous electrical system problems and in recent years, including a major transformer explosion in __ 2007. This indicates that cables, wiring, and other electrical systems and components may be failing, degraded, or insufficiently protected. Inaccessibility has limited the inspection and testing of substantial portions of the electrical systems to determine the effects of aging, corrosion, water, heat, pressurization, chemical agents and/or physical. Such degradation can result in the initiation of or the inability to adequately mitigate a major accident.

(Add in comments from IG meeting here.)

Significantly, on April 29, 2005, the NRC acknowledged that Hemyc fire barrier wrap systems had failed to perform to American Society of Testing and Materials standards ("Inadequate Fireproofing System"). This Inadequate Fireproofing System continues to be utilized at IP and, inter alia, fails to assure the protection of the control room and other critical operations in the event of a significant fire. This situation is especially egregious in view of NRC "Severe Accidents" study (NUREG-1150) which states that "a typical nuclear power station will have three to four significant fires" and that "fire is a significant risk contributor to core damage frequency, as much as 50 percent of the total risk. Fire can initiate a nuclear accident and compromise the operator's ability to control the reactor shutdown and maintain it in stable cool down."

Instead of demanding remediation of the problem, the NRC has simply backed away from enforcement and from plain common sense by deeming it acceptable for the licensee to engage in purportedly mitigating measures such as sending IP workers into a blaze to manually operate (pull circuit breakers, turn valves, etc.) equipment. Apparently, the NRC either does not realize workers are human beings who require the use of their faculties such as seeing, hearing and breathing to work effectively, or the NRC does not realize that fires can be very hot and can burn, blind and asphyxiate people. The NRC evidently does not also comprehend that electricity and fire can - in combination with certain chemicals and gasses that are present within IP - initiate explosions, which, in turn, can blow both people and sensitive equipment to smithereens.

All of these factors point to the imperative for a complete inspection and comprehensive corrosion and deterioration risk analysis of all Electrical Systems. In light of the NRC's patent ignorance or disregard of the realities of fires, such inspection must incorporate the unredacted findings and analyses of an independent fire expert.

Spent Fuel Pools: Indian Point has exceeded the original design basis (DB) for appropriately spaced storage of spent fuel rods. The densely packed stacking, combined with overstressed racks and pads, have pushed the pools far beyond their originally designed carrying capacity. Pieces of spent fuel assemblies that have broken off may impinge upon the structural stability and reliability of pool liners. Beyond the actual and potential leaking of radioactive material from crack is the spent fuel pools into the environment, the spent fuel storage buildings are not adequately reinforced (not hardened) and are extremely vulnerable to external attack. The risk here is from displacement of water, which could lead to a spent fuel fire.

Containment: Complete inspection of all critical radiation barriers must be conducted. The NRC allowed the regularly scheduled inspection of the dome liner to be delayed by 5 years, until 2008 (note comments on delayed inspection of steam boiler system in 2001). must not enable the evasion of the requirement that the entire reactor containment structure ("Containment") meet DB. All identified problems – including failing or degraded rebar/steel reinforcements– must be fully repaired in order for the licensee to meet full DB compliance before the grant of a new superseding license. The aforesaid must include a complete inspection of cracks and fissures in the dome, walls and floor of the Containment and must include comprehensive analysis of deterioration that has occurred over 30 plus

years of operation resulting from or associated with aging, embrittlement, corrosion, rust, heat, constant radiological bombardment, pressurization, and chemical agents such as boric acid.

In particular, traces of borate acids may indicate that the spray nozzles are deteriorating and could expose the Containment to be at excessive risk in the event of a criticality/core meltdown event. Moreover, studies on the effects of embrittlement, aging and radiological bombardment and their effects on thermal core shock on reactor core are woefully incomplete. Notwithstanding, studies on high pressure/high heat steam boiler systems failures and explosions provide enough clues to mandate a full exploration of this issue before relicensing is allowed to move forward. The Stakeholders in and around IP contend that the effects of/with aging, embrittlement, corrosion, rust, heat, constant radiological bombardment, and chemical agents have destabilized and weakened the tensile strength of the reactor cores to a point where they are out of DB, and present an immediate and unacceptable risk of break up/explosion in a significant core thermal shock event or a terrorist attack, such as one involving a bomb laden truck, and/or large commercial aircraft still laden with fuel.

Such inspection is particularly important from a load bearing perspective, since the licensee has discussed the possibility of a designed/engineered plan which would replace the failing domes with new model domes that have far different design and weight criteria from the domes approved under in the original DB. This refurbishment cannot comply with DB and must not proceed until all dome inspection/repair issues have been fully identified, and corrected and a full complete EIS for said significant action is implemented and carried out.

Sirens: Back up power, as required by federal law, for the IP emergency sirens remains unresolved. Further, there have been numerous complaints about the sirens not working and working when they are not supposed to work, and citizens being unable to hear the new lower tonal quality siren system.

Out of Scope: Here is a list of some of issues the NRC will NOT be likely consider in the relicensing process under present regulations. You may still raise your concerns, but it will take a change in regulations to get these included.

Location: If this were an application to construct a new nuclear power plant, under current siting standards, it is highly unlikely that it could be sited within 10 miles of 300,000 people, or within 20 miles of the nearly 1 million living within 20 miles, or within 50 miles of the 21 million people living in the greater NY metropolitan area and beyond. Because the plant has already been sited and built, its location is essentially 'grandfathered' into the relicensing process, however NRC will consider population density as a background for other health and safety considerations.

OFF-SITE WORKERS Migration of Entergy work force out of the area has placed into jeopardy Indian Point's ability to quickly mobilize trained personnel to respond to fast moving events at the facility that could lead to a significant event. Specifically, close to half of the work force now lives in Dutchess County, with another 30 percent living over an hour or further from the plant. In a fast moving, all hands on deck scenario, odds of avoiding a disaster have been greatly impinged upon because of this reality. More startling, is to overlay this reality onto the NRC's move to issue a generic letter which would eliminate requirements for various back up systems to shut down the reactors and be replaced with a plan that would allow licensees to manually shut down the reactors. If something happens to staff onsite (in say an internally caused explosion or fast moving fire) time would be of the essence, and the 60-90 minutes it would take to mobilize and return staff to the site could be the difference between saving the reactors, and losing not only the reactors, but every community within 50 miles of the plant.

Emergency Evacuation: The NRC will NOT consider the effect a major accident at Indian Point would have on people, property or the environment. When the Witt Report was issued in ___ it stated that ____. In response the NRC reduce the Emergency Evacuation area from 17.5 miles to 2 miles, while 10 miles is still considered the peak fatality radius and 50 miles remains the peak injury zone.

Emergency Response: The NRC will NOT consider the region's actual emergency response capability, or the capacity of the local congested roadways to handle a mass evacuation, or the feasibility of truly protective sheltering for those unable to evacuate in time. (The sole independent expert assessment made of the Indian Point emergency plan - the Witt Report - spent over 500 pages detailing the flaws of the NRC/FEMA plan.)

The emergency plan for IP ("Emergency Plan") is inadequate, unworkable and largely unfixable. Few of the flaws detailed in over 500 pages by the only independent expert evaluation of the IP Emergency Plan, the New York State Governor-commissioned study by James Lee Witt Associates ("Witt Report") or the flaws of the Emergency Plan repeatedly raised by regional public officials, public interest groups, school officials, and first responders have been addressed by NRC/FEMA, much less remedied. Simply rubber stamping the Emergency Plan does not constitute compliance with federal regulations mandating the protection of the public.

Further, an acceptance by the NRC of the Nuclear Energy Institute's guidance to reduce the evacuation area to a 2 mile wedge/keyhole, constitutes a complete abrogation of the NRC's originating mandate to protect the public health and safety, and is capricious, arbitrary and criminally negligent.

Further, a substitution of the fallback option of shielding in place instead of prompt evacuation is non-protective of human health and safety. Sam Collins admitted in the April NRC meeting that, in the case of a fast moving event or terrorist attack on Indian Point, evacuation under the Emergency Plan could not/would not be implemented, and shielding in place would be employed. A CDC study has shown, that shielding in many structures provides limited protection from radioactive contaminants. For instance, a wood framed home with no basement affords a mere 10 percent level of protection. Though various members of the NRC staff have stated publicly that those levels are unacceptable, the NRC is taking no steps to improve shielding capabilities and facilities for all persons likely to be unable to evacuate, thereby failing to uphold the commission's primary mandate of protecting human health and safety.

Vulnerability to Terrorism: The NRC will NOT consider Indian Point's vulnerability to a terrorist attack or the unique terrorist risks associated with a nuclear plant 24 miles from NYC. (Mohamed Atta, the hijacker who piloted the plane that struck the North Tower, considered redirecting the strike to the nuclear plant on the Hudson, according to 9/11 Commission investigation findings. Had that plane gone down 60-seconds sooner it would have caused an even more profound disaster.)

Security problems and breaches: IP and other nuclear plants operated by Entergy have occurred at unacceptably high levels and are evidence of flawed security protocols. A recent example is the security guard found sleeping on duty on ____.

Additionally, the NRC has failed to duly consider the numerous security risks filed by member groups of the Indian Point Safe Energy Coalition, especially those set forth in the filings of the Council on Intelligent Energy & Conservation Policy. Astonishingly, the NRC has not even incorporated the lessons learned from the Sept. 11 terrorist attack. The NRC does not require the plant operators to be able to repel an attack by the same number of attackers that were actively involved in September 11 attack, nor does it require IP facilities to be able to withstand the crash of a large commercial airliner of a size equivalent to the ones used in that real life disaster.

Nuclear Energy Institute: The industry's lobbying arm, the Nuclear Energy Institute ("NEI"), to change the NSIR DBT standards has reduced the safety of the plant. Such lowered security standards are unacceptable. Specifically, the NRC at its highest levels (commissioners) deliberately removed items from the DBT at the behest of NEI, even though elimination of these items create a situation where the nuclear reactor facility now has no chance of holding off a terrorist attack, let alone defeating it. Specific items include elimination of the inside malcontent, as well as the elimination of a host of weapons a facility should be capable of defending against including but not limited to the use of armor-piercing

ammunition (routinely used by both American gangs and terrorists worldwide), rocket launched grenades, shaped charges, IEDs, and tube mortar rounds. Even more troubling, the NRC commissioners caved into the NEI, and greatly reduced the size and weight of an explosive laden vehicle, thus, defacto, making it impossible for the vehicle, even if successfully exploded to do any real damage to the structural stability of the facilities. This may allow the licensee to meet the bogus DBT criteria, but paints a woefully inaccurate picture of the size vehicle that would be used in an attempted suicide bombing of IP. the commission justified its decision by stating the commissioners believed off site security would more than likely spot a larger vehicle before it reached the gates of a nuclear reactor. Overall, the NRC has reduced its assessment of risk to fit the profit needs of the nuclear industry.

Nuclear Waste:

High Level Radioactive Waste: The NRC will NOT consider the manner in which high level nuclear waste (also known as spent fuel) is maintained on site, or the fact that - to date - there exists no national depository that has been opened to accept nuclear waste from commercial reactors. The NRC will NOT consider that, even if Yucca Mountain finally opens up, if Indian Point is relicensed for 20 more years, there will be no space at

Yucca Mountain for all of the plant's additional decades of nuclear waste to go.

The NRC will NOT take into account the numerous long-term hazards associated with high-level nuclear waste that will be stored on site, and will remain deadly for literally thousands of years.

Level Radioactive Waste: Indian Point has is required to dispose of their LLRW in a licensed facility. It has in the past relied upon shipping said waste to Barnwell. That option will be eliminated as of 2008, but as yet Entergy has not publicly explained how it plans to deal with this waste stream.

History of breakdowns, failures, backlog of work orders, etc. because it claims that ongoing inspections are adequate, the NRC will NOT consider the overall safety and security track record of this aging facility's operation. For many years, Indian Point was considered to have the worst (106th of 106) track record of any operating nuclear power facility in the nation, and remains in the worst six.

Opposition to Relicensing: Notwithstanding, Riverkeeper, Clearwater, the Indian Point Safe Energy Coalition is and the entire Lower Hudson Valley NY Congressional delegation are opposed to the relicensing of facility, without an Independent Safety Assess, a viable evacuation plan, and or a workable proposal to contain and remediate its planned and unplanned releases of radionuclides into the environment.

Public Comment: It's REALLY important to have a strong public showing on September 19th, so please join us -- bring a few friends! The meeting will be held at the Colonial Terrace, 119 Oregon Road in Cortlandt Manor, NY. (914) 737-0400.

A special thanks to Michel Lee, Esq. of Indian Point Safe Energy Coalition, Joe Mangano of ___ and Susan Shapiro of FUSE for contributing information to this outline.