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To: Dyer, NRR

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SUBJECT: ~~Allegations~~ ^{Complaints} regarding Indian Point

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June 27, 2007

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Dear Dr. Pao-Tsin Kuo, et al:

The below Verified Complaint/Contentions/Allegations are submitted on behalf of the undersigned, stakeholders in the host communities and affected regions around the Indian Point reactors and associated facilities known as Indian Point 1, Indian Point 2, and Indian Point 3 (referred to herein as "Indian Point" or "IP"):

**VERIFIED COMPLAINT/CONTENTIONS/ALLEGATIONS
REGARDING INDIAN POINT'S CURRENT FLAWED AND
FAILING OPERATION**

Indian Point, upon information and belief, is not in compliance with the 10 CFR rules and regulations and/or the original Design Basis ("DB") due to a litany of problems, including those set forth below:

Contentions List

1. **LEAKS** Unplanned, unmonitored leaks of liquid radioactive effluents, including tritium, strontium 90 and cesium 137, are leaking from IP into the groundwater and Hudson River ("Radiation Leaks"). In most cases, the duration, extent, flow paths, and/or source of the Radiation Leaks, remain unknown. To date, Radiation Leaks have been discovered throughout the IP 1, 2, and 3 complex and thus place all IP plants out of regulatory compliance and DB. The Radiation Leaks manifestly can neither be repaired nor remediated until sources have been identified and/or located.

As of the date of this submission, upon information and belief, the Radiation Leaks result from separate, and a multitude of onsite systems, structures and components, including, the following:

- (A) Failed or degraded pipes (including pipes that transport liquids and pipes which transport steam);
- (B) Cracks in spent fuel pools;
- (C) Failed or degraded valves;
- (D) Reactor vessel failed welds in the bottom or vessel (which inspectors have been unable to adequately view and reach);
- (E) Pinhole leaks around weld joints (which may continuously keep cropping up due to age or repeated repairs to equipment which result in said equipment becoming out of compliance with DB.)
- (F) Failed or degraded gauges;
- (G) Failed or degraded fuel transfer tube sleeves;
- (H) Failed or degraded steam generator tubes;
- (I) Inadequate or improperly operating drain systems;
- (J) Cracks and fissures in reactor domes.

2. **PIPES** The existence of the Radiation Leaks provides direct evidence of underground pipe failure and/or degradation that has not been adequately assessed by either the licensee (hereinafter referred to as "the licensee") or the NRC. It is clear ordinary maintenance failed to reveal the specific locations of numerous Radiation Leaks. Certain Radiation Leaks, including tritium leaks allegedly from underground pipes on the "non-radioactive" side of plant were discovered purely by random accident rather than via a coordinated, intelligent aging management plan. Other leaks were discovered, only because special excavation work being done by a contractor led to investigations after tritiated water was found seeping from surface cracks in spent fuel pool number 2.

Moreover, at an April 26, 2007 public NRC meeting in Cortlandt, N.Y. ("April NRC meeting"), NRC representatives conceded that they did not even know the metallurgic composition of much of the underground piping. Inaccessibility has also limited the inspection and testing of substantial segments

of these aged and leaking pipes. It is thus difficult to understand how the NRC can have confidence that the effects of aging, soil elements, the intake of brackish water from the Hudson River and/or storm surges have not resulted in dangerous corrosion of Indian Point's entire piping, valve and gauge system.

All of these factors point to the imperative necessity for a complete inspection and comprehensive corrosion analysis of all underground piping. Compromised pipes can cause or fail to mitigate a serious accident, including a core damage event. Therefore, any compromised pipes must be replaced including the ones under the reactor where information from discussions with Indian Point workers leads us to believe the seal may be leaking.

3. **SPENT FUEL POOLS** Cracks in spent fuel pools must be remediated in order for the spent fuel pools to comply with DB. Further, failed or degraded spent fuel assemblies within the spent fuel pools present an unacceptable risk. Pieces of spent fuel assemblies that have broken off may impinge upon the structural stability and reliability of pool liners. This, added to the densely packed stacking system (which is not within the original DB of the IP plants), and combined with overstressed racks and pads, have pushed the pools far beyond their originally designed carrying loads. In the event of an accident involving, or attack upon, the spent fuel pools, radiation leaking from failed or degraded assemblies substantially increases the risk of the release of radiation into the environment and/or a spent fuel fire.

4. **VALVES** Repetitive valve problems have not been addressed globally at IP. A complete comprehensive inspection of all valves in the plant must be conducted. Any compromised valve must be replaced in order to maintain intended function, and bring Indian Point into full compliance with NRC rules and regulations, as well as IP's original DB.

5. **DECOMMISSIONING FUNDS** Due to the Radiation Leaks, the IP decommissioning funds must be increased to ensure adequate clean up of the IP site. It has been acknowledged by the NRC that numerous systems, structures and components can experience undetected radioactive leaks over a prolonged period of time and that "relatively large volumes of contamination above the decommissioning release limits" can result in "notable increases in remediation time and costs" in the sums of millions of present value dollars. The past and present leaks at IP provide indicia of continued and future leaks.

Furthermore, Entergy has stated getting the tritium out of the bedrock will require chiseling out the contamination. Such remediation work (which is required to bring the reactor site into compliance with NRC guidelines and the DB), will require additional protective actions during the remediation work to keep

radioactive contaminants from migrating off site, and exposing both humans and the environment to unnecessary additional exposure risks and pathways.

The addition of a dry cask storage facility at IP presents an increased hazard and risk to New York (and other Northeastern states) that will very possibly continue for centuries. The costs of assuming these burdens should not be placed on the taxpayers, but should be assumed by the licensee which profits from the operation of IP.

Further, the storage of an additional 20 years of waste, either in the pools or in dry cask storage increases the risk to human health and safety far beyond the original DB for this site. The pools are not designed to meet the basic minimum requirements for structural stability as is outlined in the siting criteria for new reactors that were in place at the time the NRC granted the original license, and it thus becomes imperative that the structural degradation indicated in the leaks of both Spent Fuel Pools 1 and 2 be addressed and remediated before the license renewal application is allowed to move forward.

Moreover, from 2002 to 2006 the Urban Inflation rate has been 2.9%, yet the adjustment of the decommissioning funds for IP1, IP2 and IP3 have been 1%, which means the decommissioning funds for Indian Point have a substantial shortfall, as they are not even keeping up with the rate of inflation.

6. CONTAINMENT Complete inspection of all critical radiation barriers must be conducted. The NRC's allowance of the regularly scheduled inspection of the dome liner, to be wrongly delayed by 5 years (i.e., until 2008), 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 or associated 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.

7. **SUMP PUMPS** Critical chemical test results regarding the newly-installed emergency sump pumps are not yet available and therefore the safety of the sump pumps cannot be confirmed.

8. **SECURITY** Security problems and breaches at IP and at other nuclear plants operated by the licensee occur at unacceptably high levels and are evidence of flawed security protocols. Recent examples include the employment of a severely emotionally impaired IP nuclear engineer and the mailing of national security software regarding IP emergency systems resulting in false nuclear event faxes being sent from Massachusetts into the four Emergency Management Centers for the counties surrounding IP. (Notably, because licensee at first failed to realize its own error, it made a false report to State Police that their computers had been hacked into.)

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 licensee to be able to fend off an attack by the number of attackers actively involved on Sept. 11 and the NRC does not require IP to be able to withstand the crash of a large commercial airliner, and the DBT's bomb laden vehicle was made far smaller to mitigate and misconstrue reactor core damage in such an attack scenario (as reported in the GAO Report on Reactor Security).

Indeed, evident collusion of the NRC with the nuclear 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 actor, 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 commisioners 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.

Security cannot be created from weak suppositions.

9. **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.

10. **FIRE AND ELECTRICAL SYSTEM HAZARDS** Numerous electrical system problems and several fires have arisen at IP in recent years, pointing to the strong possibility that many cables, wiring, and other electrical systems and components ("Electrical Systems") may be failing, degraded, or insufficiently protected. Inaccessibility has limited the inspection and testing of substantial portions of the Electrical Systems. It is thus difficult to understand how the NRC can have confidence that the effects of aging, corrosion, water, heat, pressurization, chemical agents and/or physical reactions have not resulted in dangerous degradation of safety margins. Such degradation can result in the initiation of or the inability to adequately mitigate a major accident.

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.

11. **EMERGENCY 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 NEI'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 acknowledged 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.

12. **SEISMIC HAZARDS** 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 an updated 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 DB of 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.

13. **WATER POLLUTION** Discharge effluent into the River must meet state of the industry and cooling towers must be installed to meet federal EPA standards.

14. **QUALITY CONTROL** Reports of a recent change in the methods of quality control inspections have indicated that the new peer review methodology functions inadequately and does not allow for independent third party evaluation.

This goes to the heart of proper and safe maintenance throughout the plant. It has been instituted by the licensee as a money-saving technique that involves a smaller management level team and reduced staffing. This shortcut is unacceptable at the high level industrial complex Indian Point, where the lives of

over 20 million people depend on the complete, thorough, and independent inspection of all repairs.

15. **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 diminished because of this reality. More startling, is the overlay of 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 to replace it with a plan for 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.

16. **LOW LEVEL RADIOACTIVE WASTE** Indian Point has a duty to dispose of their low level radioactive waste ("LLRW") in a licensed facility. It has in the past relied upon shipping LLLRW to Barnwell. That option is eliminated as of 2008, yet no plans have been put forth publicly to explain how the licensee plans to deal with these dangerous waste streams.

17. **PUMPS AND COOLING SYSTEM** IP has been plagued by a host of pump and cooling system problems which are indicative of a scopic 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. Thus, it is beyond cavil, that the regular maintenance program used by the licensee and approved by the NRC failed.

Such problems demonstrate the need for a full inspection and analysis of the IP pumps and cooling system problems, as well as all related maintenance programs.

18. **STEAM GENERATORS** IP has long been plagued by steam generator problems which are indicative of ongoing equipment malfunctions and/or maintenance program inadequacies. The most recent of such problems

occurred in May 2007 when a malfunctioning water valve in an IP 2 steam generator malfunctioned, requiring the shut down of the plant. About one month earlier, in April 2007, IP 3 was forced to be taken off line when low water levels were detected in that plant's steam generators. (That particular incident was initiated by a malfunctioning boiler pump control.)

Such problems demonstrate the need for a full inspection and analysis of the IP steam generators, as well as all related maintenance programs.

WHEREFORE: The signatories hereof contend that ALL the above iterated and all other problems that affect the safe operation of IP MUST BE fully investigated and repaired in order to maintain intended function, and bring Indian Point into FULL COMPLIANCE with the 10 CFR rules and regulations, as well as its original DB prior to the NRC accepting the licensee's license renewal application, or being granted a new superceding license by the NRC pursuant to the license renewal process.

Failure to ensure same constitutes a complete abrogation of the NRC's originating mandate to protect the public health and safety and demonstrates an arbitrary and capricious disregard for the public's health and safety.

Sincerely,

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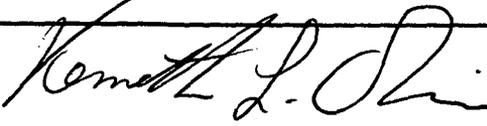
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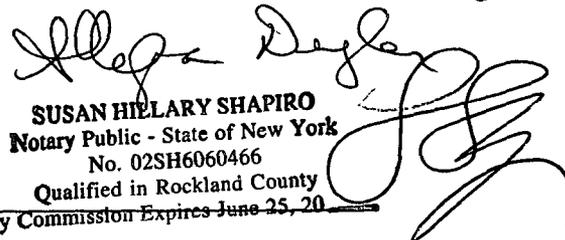
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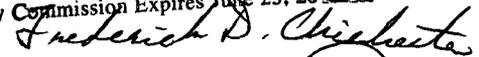
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SUSAN HILLARY SHAPIRO
Notary Public - State of New York
No. 02SH6060466
Qualified in Rockland County
My Commission Expires June 25, 2009

NAME
ADDRESS

SIGNATURE

NOTARY

John Crockett 24 So/Da Canal
[Signature]

SUSAN HILLARY SHAPIRO
Notary Public - State of New York
No. 02SH6060466
Qualified in Rockland County
My Commission Expires June 25, 2020
[Signature]

Linda Conte Linda Conte
1420 Journey's End Rd
Cortland NY 13820

SUSAN HILLARY SHAPIRO
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