

**Before the
UNITED STATES NUCLEAR REGULATORY COMMISSION
Washington, D.C. 20555**

In the Matter of:	:	TO: EXECUTIVE DIRECTOR
	:	FOR OPERATIONS
ENTERGY CORPORATION	:	
(Indian Point Nuclear Power Station,	:	Docket No. _____
Units No. 2 and 3; Facility Operating	:	
Licenses DPR-26 and DPR-64)	:	
-----		November 8, 2001

RIVERKEEPER, INC., et al,
Petitioners

**SECTION 2.206 REQUEST FOR EMERGENCY SHUTDOWN
OF INDIAN POINT UNITS 2 AND 3**

I. Request for Action

Riverkeeper, Inc. and the individual and organizational petitioners identified on the attached page (collectively, "Petitioners") hereby respectfully request, pursuant to 10 CFR §§ 2.206 and 2.202, that the United States Nuclear Regulatory Commission take the following immediate actions:

1. Order the Indian Point licensee to suspend operations, revoke the operating license, or adopt other measures resulting in a temporary shutdown of Indian Point Unit Two and Unit Three, as per 10 CFR § 2.202, and order the licensee to conduct a full review of the facility's vulnerabilities, security measures and evacuation plans.
2. Require the licensee to provide information, as contemplated by 10 CFR § 2.204(a), documenting the existing and readily attainable security measures which provide the Indian Point facility with protection against land, water, and airborne terrorist attacks. Such information should provide, at a minimum, sufficient basis for the Commission to determine that physical barriers, intrusion alarms, and other measures are in place or may be easily constructed, and are sufficient to meet realistically expected threats.
3. Immediately modify the licensee's operating license for Units Two and Three to mandate, at minimum, the following security measures sufficient to protect the facility as required by 10 CFR § 73.55:
 - a. obtainment of a permanent no-fly zone from the Federal Aviation Administration in the air space within 10 nautical miles of the Indian Point facility;
 - b. a defense and security system sufficient to protect and defend the no-fly zone;
 - c. a defense and security system sufficient to protect the entire facility, including the containment and spent fuel storage buildings, control room and electricity equipment, from a land or water based terrorist attack. The security review described above should contemplate retaining these measures on a permanent basis, and/or discuss reasonable alternatives of equal efficacy.
4. Order the revision of licensee's Emergency Response Plan and Westchester County's Radiological Emergency Response Plan in order to account and prepare for possible terrorist attacks. These reviews must contemplate not only realistic and catastrophic effects of a terrorist attack on the Indian Point facility, but a comprehensive response to multiple attacks in the region which may impair the efficient evacuation of the area. Examples of such attacks include destruction of the Tappan Zee Bridge, loss of power to passenger railroads, and other events which deny use of necessary infrastructure.

5. If, after conducting conduct a full review of the facility's vulnerabilities, security measures and evacuation plans, the NRC cannot sufficiently ensure the security of the Indian Point facility against terrorist threats, the Commission should take prompt action to permanently retire the facility.
6. Separate and apart from the above, the Commission must order the Indian Point licensee to undertake the immediate conversion of the current spent fuel storage technology from a water cooled system to a dry cask system in a bunkered structure in order to reduce the long-term risk associated with potential exothermic oxidation within the existing spent fuel storage facility.

As explained more fully below, the Indian Point facilities' containment structures, reactor vessels, spent fuel storage areas, control rooms, and electrical switching equipment are all vulnerable to terrorist attack. Indian Point, located in Westchester County, New York, is not currently equipped to defend itself, nor the 20 million people who reside and work within a 50 mile radius of the plant, against an attack of the scale, sophistication, and coordination demonstrated on September 11, 2001. A successful attack on these structures would have a catastrophic effect on the region's human population, environment, and economy. Based on this threat, Petitioners are requesting, among other things, that the United States Nuclear Regulatory Commission suspend the operating licenses for all units until such time as the licensee can demonstrate that the facility is protected against plausible attack scenarios.

II. The Interests of Petitioners

Petitioner Riverkeeper, Inc. is a not-for-profit organization whose mission is to protect the environmental, recreational and commercial integrity of the Hudson River, and to safeguard New York City's and Westchester County's drinking water supply. Petitioners together and independently state that they are personally affected and aggrieved by the continued operation of Indian Point without the specific security measures identified in this request.

Section 2.206(a) of Title 10, CFR, states that "[a]ny person may file a request to institute a proceeding pursuant to § 2.202 to modify, suspend, or revoke a license, or for any other action as may be proper." Riverkeeper, Inc. hereby submits this petition identifying the threat of a terrorist attack on the Indian Point facility as a new, site-specific, hazardous condition that is larger and more dangerous than previously considered in the licensing and the design basis threat of Indian Point Units Two and Three.

III. Critical New Information Constituting the Basis for This Request.

A. The Indian Point Facility is a Plausible Target of Future Terrorist Actions.

The United States is currently facing a heightened state of security related to the recent terrorist attacks against infrastructure targets in New York City and Washington D.C. As political, judicial, and military operations against suspected terrorist organizations continue, civilian and military establishments within the United States remain plausible targets of future terrorist attack. New York City remains a primary terrorist target, as evidenced by the growing number of Anthrax cases in that city and its environs. As New York City is a terrorist target, so too are nearby industrial facilities that, if compromised, could cause devastation to the populace, environment, and economy. No other facility in the country, let alone in New York, poses as great a risk to as great a number of people as the Indian Point nuclear power plant. Among the factors making the Indian Point facility a plausible target for a terrorist attack is the facility's proximity to:

- A population density of approximately 20 million people within 50 miles of the facility;^[1]
- Major financial centers in New York City that are essential to the functioning of the U.S. economy, (the greater New York City metropolitan area has the 14th largest economy in the world and the greatest economy of any metropolitan region in the nation);^[2]
- The Croton, West Branch and Kensico reservoirs which supply and store nearly all of Westchester County's and most of New York City's drinking water; and

- Major air, sea, rail, and highway transportation systems that are vital to the regional and national economy.

B. Actual Threats Against Nuclear Power Plants Have Been Documented.

The imminent threat of a terrorist attack on a nuclear power plant is evidenced in news and in government statements. On November 3, 2001, Daniel Rubin reported in his article, *Nuclear Terrorism Threat Growing*: “[t]he vulnerability of power plants moved to center stage after last Sunday, when Canadian authorities monitored a phone call from an alleged al-Qaida member to Afghanistan. Two targets, he said, would be attacked this week ‘down south,’ including an unnamed nuclear facility.”^[3]

Shortly following the attacks on September 11, 2001 the Three Mile Island nuclear power plant received a “credible threat” on October 17, prompting officials to shut down two nearby airports and dispatch military aircraft to protect the facility.^[4]

On November 1, 2001, Mohamed ElBaradei, Director General of the International Atomic Energy Agency (IAEA) warned that there is “the potential of terrorists targeting nuclear facilities.”^[5] Mr. ElBaradei also stated that the “safety and security of nuclear material is a legitimate concern of all States” and that “[t]he willingness of terrorists to commit suicide to achieve their evil makes the nuclear terrorism threat far more likely than it was before September 11.”^[6]

On November 1, 2001, the Washington Post reported: “Nancy Savage, an FBI agent in Eugene, Ore., who is president of the FBI Agents Association, said the biggest concerns for investigators include airports, power plants and other key infrastructure points.”^[7]

On July 4, 2001, the New York Times reported that an Algerian man, Ahmed Ressay, convicted of attempting to carry out a terrorist attack in Los Angeles, testified that he was trained in an Afghanistan camp run by Osama bin Laden and received training in how to blow up “the infrastructure of a country.”^[8] Ressay described how he was among 50 to 100 men at the camp who were being trained in “urban warfare.”^[9] Ressay stated that power plants were targets as they were labeled “enemies’ installations.”^[10]

On October 21, 2001, the Sunday London Times reported that the FBI is studying a report that the four terrorists who seized Flight 93, which crashed near Pittsburgh, may have been targeting a nuclear power plant.^[11] Most recently, the Federal Aviation Administration established a no-fly zone around nuclear power plants.^[12] On October 30, 2001, the Washington Post reported on an interview with a jailed disciple of Osama bin Laden who said there are “more important places, like atomic plants and reactors” that may have been more appropriate targets than the World Trade Center.^[13]

The NRC acknowledges the threat against nuclear power plants, as evidenced by the agency’s move to shut down its website within weeks after the September 11 attacks. NRC’s website is back up but with limited access to sensitive information, raising the question of whether terrorists already have downloaded and made use of information that has since been removed from the website. The United States remains on high alert in anticipation of additional terrorist attacks. As this petition was being written, the U.S. Justice Department announced it had credible information that another round of terrorism is imminent. In response to this renewed threat, the Governor of the State of New York, George Pataki, dispatched additional National Guard reservists to the state’s nuclear power facilities. However, the strained resources of the state and the National Guard cannot ensure sustained adequate protection from terrorist attacks.

C. Indian Point Is Currently Vulnerable to Catastrophic Terrorist Attack.

1. While Operational, Indian Point Is Unnecessarily Vulnerable.

a. Risks from Takeover of or Damage to Control Rooms

As long as the facility remains operational, the control rooms are a likely and vulnerable target for terrorist attack. Seizure or disability of the control rooms would dramatically increase the potential for the intentional or accidental destruction of the reactor core. A terrorist attack on the control rooms of the Indian Point facility would cause a loss of control of Units Two and Three. Disruption of the off-site power supplied to Indian Point or an on-site cutoff of power directly to the control room could render the control room inoperable. Back-up diesel generators are also vulnerable and sometimes unreliable. An on-site fire affecting the control room could render the control inoperable or ineffective, as technicians would be forced to leave or die. A properly functioning control room and control staff is necessary to ensure safe operation of an active reactor core. Absent proper control of plant operations, the risk of a reactor core melt-down or spent fuel storage incident rises precipitously.

b. Breach of Operating Reactors Creates Greater Danger of Catastrophic Contamination.

As discussed below, the reactor containment walls were not designed to withstand the accidental or intentional crash of fuel Laden jetliners. The incidents of September 11, 2001, have introduced the likelihood that such a aircraft may be used against high-risk infrastructure facilities. The dangers posed by a breach of the containment domes of Indian Point Units 2 and 3 would be reduced by a cold shut down of these reactors. In particular, de-powering the reactors would reduce a potential release of high-risk radio-nucleides, thereby lowering long-term impacts such as childhood thyroid cancers of the type encountered in the wake of the Chernobyl accident.

c. Operational Facility Creates Multiple Vulnerable Points in Plant Security.

Because the reactors at Indian Point are operational, the licensee must extend full security measures to ensure protection of the control rooms and to guard against strikes that threaten the structural stability of the containment domes. While shutting down the reactors will not remove the need for such security, the reduction in threat would allow the licensee to focus its protective efforts on the more critical areas of the facility, especially the spent fuel storage area. The licensee would be able to shift some security personnel away from low risk areas, concentrating resources where they are most valuable and most likely to protect effectively against the deadliest attack.

d. Indian Point and NRC Personnel and Resources Confront Dual Challenges When Ensuring Security At Operational Facility.

Currently, employees at Indian Point must ensure both the safe and stable generation of power and create a heightened security environment. Simultaneously, NRC personnel are tasked with overseeing the ordinary operations of the plant while also ensuring that nuclear plants like Indian Point are protected against foreseeable threats. Resources of both the agency and the licensee have been stretched thin by this double-tasking.

On September 21, 2001, for example, the NRC announced that it was “working around the clock to ensure adequate protection of nuclear power plants and nuclear fuel facilities,” and had directed the Staff to review NRC security regulations and procedures.^[14] NRC also reports that it has advised all nuclear power plant licensees to maintain a state of the “highest level of security.” In addition, the NRC conceded that nuclear power plants are not designed to withstand to withstand crashes by large aircraft.^[15]

The Commission’s efforts in this regard highlight the credibility of the threats faced by nuclear power plants, particularly Indian Point. The necessity for round the clock operations, even figuratively, demonstrates the levels of staff time and resource commitments necessary to meet currently foreseeable threats. Closing down reactor operations will reduce these expenditures, simplifying daily operations at Indian Point, thereby reducing the chances of an accident while allowing both the Commission and licensee to prioritize security measures.

e. Shutting Down Indian Point’s Reactors Creates A More Secure Environment

Security of spent fuel has never been demonstrated at Indian Point. A provisional shut down of the plant is needed to allow the licensee and NRC to test critical security provisions for this facility. "Business as usual" operation of Indian Point provides no incentive for the plant's owner and NRC to remedy this long overlooked vulnerability.

2. Vulnerability of the Spent Fuel Storage Facility

Terrorist action against the spent fuel storage facility could result in a catastrophic failure of the containment system. NRC has never established that the Indian Point spent fuel storage facility is secure against foreseeable attacks. Likewise, the Commission cannot be certain that the structure of the storage facility is sufficiently sound to preclude the possibility of a spent fuel fire in the event of an airborne, land, or water based assault.

NRC has not properly evaluated the consequences of terrorist attack on the spent fuel storage area. In a study conducted by the NRC in October 2000, it stated that:

“the risk analysis in this study did not evaluate the potential consequences of a sabotage event that could directly cause off-site fission product dispersion, for example, a vehicle bomb driven into or otherwise significantly damaging the SFP [Spent Fuel Pool], even after a zirconium fire was no longer possible.”^[16]

A likely result of an aircraft crashing into a spent fuel storage facility, or of a truck bomb explosion similar to that which destroyed the Alfred E. Murrow Federal Building, would be a precipitous loss of cooling water in the spent fuel pools. During the course of normal operation, the presence of cooling water reduces heat produced by the decaying fuel rods and minimizes the potential for fire in the fuel cladding. In the absence of cooling water, adequate air circulation through the spent fuel storage racks is necessary to prevent such a fire. Partial dewatering of the storage pools will block this air flow, especially if the racks are damaged or obstructed by falling debris or the force of an explosion.

A reduction of cooling water in the spent fuel pools could lead to a catastrophic release of radiation. As the water in the fuel pool is reduced the remaining water will heat up and evaporate. This could expose the zirconium cladding which surround the spent fuel rods to oxygen and steam, resulting in an exothermic reaction that will lead to a spent fuel rod assembly fire. This event would release deadly amounts of radiological material and toxic fumes. The NRC October 2000 report stated:

This reaction of zirconium and air, or zirconium and steam is exothermic (i.e., produces heat). The energy released from the reaction, combined with the fuel's decay energy, can cause the reaction to become self-sustaining and ignite the zirconium. The increase in heat from the oxidation reaction can also raise the temperature in adjacent fuel assemblies and propagate the oxidation reaction. The zirconium fire would result in a significant release of the spent fuel fission products which would be dispersed from the reactor site in the thermal plume from the zirconium fire. Consequence assessments have shown that a zirconium fire could have significant latent health effects and resulted (sic) in number of early fatalities.^[17]

A Department of Energy report indicates that such a fire would release considerable amounts of cesium-137, an isotope that accounted for most of the offsite radiation exposure from the 1986 Chernobyl accident.^[18] Another report, authored by NRC, concludes that, in the event of a pool fire approximately 100 percent of the pool's inventory of cesium would be released to the atmosphere.^[19]

The emission of radioactive particles from a spent fuel pool accident would lead to horrific consequences. The NRC study stated that human fatalities within the first year of such an event “can be as large as for a severe reactor accident even if fuel has decayed several years.”^[20] The radioactive fallout from this type of release could also make tens of thousands of acres of land uninhabitable.

An uncontrolled fuel rod fire in one pool could quickly cause fires in other pools where water loss is occurring. In the October 2000 report, the NRC stated that “[i]f the fuel handler fails to respond to the alarm or is unsuccessful in

extinguishing the fire within the first 20 minutes, the staff assumes that the SSP cooling system will be significantly damaged and cannot be repaired."^[21]

In addressing catastrophic events such as an earthquake, the report stated that the spent fuel pools "are also subject to unpredictable changes as a result of the severe seismic, cask drop and possibly other dynamic events which could rapidly drain the pool." A terrorist attack is one such dynamic event.

The spent fuel storage buildings at Indian Point are not capable of withstanding a terrorist attack. The roofs are "made partly out of pretty insubstantial metal, like sheet metal," according to the Nuclear Energy Institute.^[22] This construction, coupled with relatively thin walls, is insufficient to protect against large vehicles or medium sized aircraft. The storage facilities are highly vulnerable to a ground-based attack of only several individuals or to a car and/ or truck bomb. Compromise of the storage facility could pose an immediate health threat to workers and residents within close proximity of the Indian Point facility since radiation levels in the spent fuel storage facility can be five times higher than radiation levels in the containment area.^[23]

The spent fuel storage area is highly vulnerable to an air attack and mitigation and control of damage from such an attack is highly improbable. An NRC report stated that an aircraft crashing into the spent fuel storage area could seriously affect the "structural integrity of the spent fuel pool or the availability of nearby support systems, such as power supplies, heat exchanges, or water makeup sources, and may also affect recovery actions."^[24] The NRC study goes on to estimate that "1 of 2 aircrafts are large enough to penetrate a five foot thick reinforced concrete wall. The conditional probability that a large aircraft crashing penetrate a 5-foot-thick reinforced concrete wall is taken as 0.45."^[25]

This probability is based on the occurrence of catastrophic damage to the spent fuel pool where "the pool is so damaged that it rapidly drains and cannot be refilled from either onsite or offsite resources."^[26] Such an impact could cause a catastrophic event. The report estimates that a worse case scenario radiation release from a spent fuel rod fire will cause a 4.3 percent increase in early fatalities among those who are late to evacuate the one mile perimeter..^[27] The individual risk of latent cancer fatalities from a worse case scenario release would be 8.42% higher.^[28]

3. Design Basis Threat of the Indian Point Facility

The design basis threat did not consider the possibility of an intentional terrorist attack from the air or water, or a suicide attack from any front. The NRC has acknowledged that the Indian Point facility was not designed to withstand an attack by a fuel-Laden, wide body jet. NRC spokesman, Neil Sheehan, stated "[w]e have not done the analysis, so we are not going to guarantee that a plane couldn't breach the containment."^[29] The NRC news release of September 21, 2001 (No. 01-112), reads "the NRC did not specifically contemplate attacks by aircraft such as Boeing 757s or 767s and nuclear plants were not designed to withstand such crashes. Detailed engineering analysis of a large airline crash has not yet been performed."^[30] Victor Dricks, NRC spokesperson, stated that: "No one considered the possibility of suicide hijackers steering a large aircraft into a nuclear plant."^[31]

In 1982, the U.S. Energy Department's Argonne National Laboratory performed a study that detailed the probable damage a jetliner could cause on the concrete containment walls protecting the reactors. While this study only addressed an accidental crash, it focused on the force of an impact into the primary containment wall and interior structure of a nuclear reactor. The report estimated that, if just one percent of a jetliner's fuel ignited after impact, an explosion inside the already damaged reactor building would occur generating a force equivalent to 1,000 pounds of dynamite.^[32] The more fuel, the worse the explosion. The report stated that the ignition of fuel "could lead to a rather violent explosion and impose upon the primary containment relatively severe loads."^[33]

The report added that U.S. nuclear regulators might have underestimated the potential damage from such explosions. The report also mentioned that “the breaching of some of the plant's concrete barriers may often be tantamount to a release of radioactivity.” The report also stated that “[I]t appears that fire and explosion hazards have been treated with much less care than the direct aircraft impact. Therefore, the claim that these fire/explosion effects do not represent a threat to nuclear power plant facilities has not been clearly demonstrated.”^[34]

4. Defending the Indian Point Facility Against a Terrorist Attack

Security forces at nuclear power plants have repeatedly failed to repel mock terrorist attackers. In NRC recognized drills intended to test the ability of plants to defend against land based terrorist attacks, the nuclear industry has repeatedly failed to stop mock terrorist assaults from reaching the secure area of the plant and wreaking simulated damage that would, in a real situation, result in a core meltdown. The NRC reveals that 33 of the 68 facilities failed to repel small groups of mock intruders whose weapons, explosives, and tactics are severely limited.^[35] In response to this problem, Paul Leventhal, founder of the Nuclear Control Institute,^[36] stated:

The security guards at half the nuclear power plants in the United States have failed to repel mock terrorist attacks against safety systems designed to prevent a reactor meltdown. These are so-called "force-on-force" exercises supervised by the Nuclear Regulatory Commission. The NRC refuses to take enforcement action in response to the failures, and is in the process of weakening the rules of the game in response to industry complaints. Sabotage of nuclear power plants may be the greatest domestic vulnerability in the United States today. This is the time to strengthen, not weaken, nuclear regulation.^[37]

Despite Entergy's (the licensee of the Indian Point facility) assurances that it will be able to adequately protect against a terrorist attack, the reality of protection seems dubious. Entergy, the owner/operator of Indian Point Units Two and Three, has acknowledged the vulnerability of the facility if a terrorist attack occurred. Mike Kansler, head of Entergy Nuclear Northwest, stated that there is no evidence to show that the plant's massive, concrete containment buildings and internal barriers would prevent a major incident. He additionally stated “ . . . it is true that they were not specifically designed, and we have not done the calculations to say that these plants could specifically withstand a 767 or 747 hitting it.”^[38]

5. Security And Safety Violations by Indian Point Licensee

It is clear from Entergy's history of violations that their claims of having sufficient security and the ability to protect the facility against a terrorist attack need to be called into question. Entergy has a demonstrably poor security record. As recently as August 2000, Entergy was sanctioned by the NRC for failure to maintain adequate physical protection of the Waterford 3 facility in Killona, Louisiana.^[39] As a result of an October 1999 inspection by NRC staff, the NRC issued an order modifying Entergy's operating license in order to "assure that corrective actions are effectively implemented over the long term...and are necessary for [Entergy] to maintain compliance with 10 CFR 73.55[a].”^[40] The NRC order explained that “[b]ased on the conduct of tabletop exercises, weaknesses were identified with the Licensee's capabilities to respond adequately to a design basis threat intrusion.”^[41]

In addition to this enforcement order, Entergy has been subject to several enforcement actions for inadequate physical protection at its other facilities. Such violations include knowingly providing false information to an NRC inspector concerning a failure to provide adequate escorts to visitors inside the vital area.^[42] Entergy has also been cited for numerous other violations related to safety.^[43]

Last year, Indian Point 2 became the first nuclear plant in the nation to be given a “red” designation, giving it the highest risk assessment in the nation. The NRC gave the plant its worst rating because of the operators failure to detect

flaws in a steam generator tube before a radiation leak in February 2000.^[44]

6. History of Emergency Preparedness Problems at the Indian Point Facility

The Indian Point facility has long history of safety problems related to the ability to respond to emergency situations. In Inside NRC, 2000, the Commission reported that a NRC Region One Automated Inspection Team (AIT) found emergency response problems at Indian Point. The report stated that the

[e]mergency response data system, which links the site with the NRC's operations center, was in-operable for the first several hours of the event due to pre-existing equipment problems. The utility was slow to activate emergency facilities; beepers used to notify emergency response personnel; phone number contacts were outdated and confusion exists about who responded when, some responders entered Indian Point's site from a back gate to Indian point Three and their arrival and whereabouts were not noted.^[45]

D. Impacts of a Terrorist Attack on Indian Point's Unit Two and Unit Three

A successful attack on either of Indian Point's reactors or spent fuel storage facilities would likely result in a massive release of radioactive materials into the surrounding towns and counties, quite possibly reaching into and contaminating New York City. Such a release would cause hundreds of immediate fatalities close to the site and 100,000 or more latent cancer deaths farther downwind of the plant.^[46] Further, a major release would probably contaminate the drinking water supply for New York City and Westchester County, devastate the area's ecology, and render portions of the New York metropolitan area uninhabitable.

1. Illness and Fatality Data

A study performed by NRC estimates that a terrorist attack on the Indian Point Unit Two reactor that leads to a meltdown would cause "46,000 Peak Early Fatalities, 141,000 Peak Early Injuries, [and] 13,000 Peak Deaths from cancer."^[47] A meltdown of the Indian Point Unit Three reactors would cause "50,000 Peak Early Fatalities, 167,000 Peak Early Injuries, [and] 14,000 Peak Deaths from cancer."^[48]

Loss of life and long-term illnesses will be exacerbated by the near-impossibility of evacuating the 22 million people who live within the 50 mile radius surrounding Indian Point. Following the 1979 accident at Three Mile Island, then Director of NRC's Office of State Programs testified that a similar accident at Indian Point would have had far more drastic consequences:

Everybody says what a terrible situation we had at Three Mile Island, and I agree, but can you imagine what it would have been if it had been at Indian Point? It would have calamitous. You would have had dozens, hundred of people killed perhaps trying to get out of the place, because the roads are, you know, they're North-South roads basically and...there are narrow old bridges, one of the oldest bridges across the Hudson, the Bear Mountain Bridge, is a two-lane bridge...It's just a ridiculous place.^[49]

2. Economic Loss Data

This same NRC study reveals that a terrorist attack on the Indian Point Unit Two or Three reactors that leads to a meltdown would cause \$274 billion (1982 dollars) in property damage,^[50] and \$314 billion (1982 dollars) in property damage respectively.^[51] In terms of 2000 dollars, property damage from a Unit Two meltdown would be estimated conservatively at \$500.5 billion, and property damage from a Unit Three meltdown would be estimated conservatively at \$573.5 billion -- figures based solely on inflation without factoring the substantial rise in metropolitan area real estate values.^[52] Data from the New York State Office of Real Property Services show that property values in Westchester County, and NY state in general, have increased four-fold since 1982.^[53] Compounding this economic disaster would be

the tremendous loss of both personal and corporate equity, and the loss resulting from uninsured and unrecoverable defaults on mortgage loans resulting from property loss.

An economic loss of this magnitude for the City of New York would have devastating consequences on our nation's entire economy.

3. Environmental Consequences

The potential dispersal of radiological contaminants into the water, atmosphere, and on land, would cause extensive and irreversible environmental damage. The dispersal of radiological contaminants is dependent on their physical and chemical properties. Some particles would be suspended or dissolved in water, contaminating drinking water supplies. The consumption of these suspended particles would adversely affect the health of aquatic life. Some radioactive isotopes are known to bio-accumulate in the tissues and organs of wildlife, thereby leading to systemic contamination of the food chain and further injury to humans. As some of the radioactive particles fall out of suspension and settle, river and reservoir beds would become contaminated. Furthermore a radioactively contaminated Hudson River would lose its recreational and commercial value as it would be unnavigable, unswimmable, and unfishable.

Particles that remain airborne would be respirable by humans and wildlife causing latent carcinogenic, mutagenic and teratogenic effects. Particles that settle out of the air would contaminate plant life and lands, causing lasting damage to entire ecosystems.

E. Westchester County's Radiological Emergency Preparedness Plan (REPP)

Westchester County's Radiological Emergency Preparedness Plan (REPP) was last revised in May of 2000 and does not address the site-specific, hazardous conditions of a sabotage event or a terrorist attack at the Indian Point facility. Moreover, the REPP does not address the likelihood of a meltdown event, a spent fuel storage area release, or a spent fuel assembly fire.

The REPP is flawed because it is based on erroneous assumptions. Therefore, REPP is inadequate in providing protection to the public. The assumptions in the REPP preclude the occurrence of an intentional act of terrorism or sabotage, a meltdown event involving Units Two or Three, the radiological release from the spent fuel storage area, a spent fuel rod fire, or the possibility of an explosion at the Indian Point facility.^[54] A particularly disturbing assumption is that the effect of an accident "would almost certainly be contained within the reactor containment building. Nonetheless, an accidental release of radioactive materials to the off-site environment remains a remote possibility."^[55] In the event of an accident, the REPP only considers the potential release of radioactive iodine, xenon, and krypton gases.^[56] The REPP, by omission, ignores the release of cesium, strontium-90, plutonium and other radiological and toxic contaminants that will be released from a meltdown scenario, compromise of the spent fuel pools, or a spent fuel assembly fire.^[57]

The inadequacies of emergency response at the Indian Point facility were known and considered decades ago, however no action was taken to resolve response problems. Robert Ryan, previous Director of NRC's Office of State Programs, said in a sworn statement after Three Mile Island, "it is insane to have a three-unit reactor on the Hudson River in Westchester County, 40 miles from Times Square, 20 miles from the Bronx" and that the emergency response plan for serious accidents at the facility was a "nightmare."^[58] Given the imminent threat of a terrorist attack on the Indian Point facility Mr. Ryan's statement is doubly true today.

Based on the inherent inadequacies of the REPP and its preclusion of the new site-specific, hazardous condition posed by a terrorist threat, the REPP needs to be revoked. In the interim, the Indian Point facility should be temporarily shut down until a realistic REPP can be developed, implemented, and tested.

F. Economic Impact of Actions Requested

The temporary shutdown of the Indian Point facility during the fall, winter, and spring will not have a significant impact on the supply and cost of electricity to consumers. The Indian Point reactors generate only five percent of the electricity in New York State. During the fall, winter, and spring months, there is a surplus of generating capacity in New York State. The potential costs increase to consumers from a temporary shutdown of Indian Point will be approximately 1/10 of one cent per kilowatt-hour. This is a small price to pay in comparison to the potential loss of life, environmental damage and economic loss that could result from terrorist attack at the Indian Point facility.

IV. The NRC Has Broad Discretionary Powers to Order and Implement Petitioner's Requests.

Pursuant to 10 CFR § 2.202(a) the Commission has authority to "institute a proceeding to modify, suspend or revoke a license or to take such actions as may be proper." In upholding its duty to protect the public, environment, and property, the NRC has broad discretionary powers to grant Petitioners' requests.

Section 161(b) of the Atomic Energy Act empowers the Commission to "establish rule[s], regulation[s], or order[s]" to "protect health or to minimize danger to life or property."^[59] The NRC's authority to protect the public ...cannot be read simply to permit the Commission to provide adequate protection; another section of the Act "requires" the Commission to do that much. We therefore must view section 161 as a grant of authority to the Commission to provide a measure of safety above and beyond what is "adequate." The exercise of this authority is entirely discretionary. If the Commission wishes to do so, it may order power plants already satisfying the standard of adequate protection to take additional safety precautions.^[60]

In addition, the Code of Federal Regulations, in Title 10, Sections 2.200, 2.204, 2.206, and 73.55, as well as other authority, authorizes the NRC to take the specific actions requested herein.

V. The Actions Requested Are Necessary and Appropriate to Protect the Safety of the Twenty Million People Living in the Vicinity of Indian Point.

Petitioners have properly "set forth the facts that constitute the basis for [this] request" pursuant to 10 CFR § 2.206, and have properly identified "the potentially hazardous conditions" as required by 10 CFR § 2.202(a)(1), specifically the threat of a terrorist attack on the Indian Point facility. The NRC should take immediate action in response to Petitioners' request.

The threat of terrorism on a scale of the September 11th attacks, and including assaults from the air or water, has not been previously considered in the licensing and/or design basis threat of the Indian Point facility, therefore, this request is proper and demands NRC's immediate attention and action. The Atomic Energy Act "commands the NRC to ensure that any use or production of nuclear materials 'provide[s] adequate protection to the health or safety of the public.'"^[61] As of September 11, 2001, this duty has taken on a new dimension: the protection of the public from threat of a major radiological release resulting from a terrorist attack. Given that NRC's "paramount responsibility [is] protection of the public health and safety and the environment,"^[62] the NRC should immediately order the actions requested herein and more fully articulated below.

A. The NRC Should Order An Immediate, Temporary Suspension of Operations at Indian Point Units Two and Three, and Conduct a Full Review of The Facilities' Vulnerabilities, Security Measures and Evacuation Plans.

Title 10, Section 2.202 of the Code of Federal Regulations authorizes the NRC to "modify, suspend, or revoke a license, or [take] any other action as may be proper."^[63] The NRC should immediately order the Indian Point licensee to suspend operations, revoke the operating license, or adopt other measures resulting in a temporary shutdown of Indian Point

Unit Two and Unit Three, as per 10 CFR § 2.202, and to conduct a full review of the facility's vulnerabilities, security measures and evacuation plans for the following reasons:

First, as explained above, as an operating facility, Indian Point is unnecessarily vulnerable to risks from takeover of or damage to control rooms. As long as the facility remains operational, the control rooms are a likely and vulnerable target for terrorist attack. Seizure or disability of the control rooms would dramatically increase the potential for the intentional or accidental destruction of the reactor core.

Second, because the reactor containment walls were not designed to withstand the accidental or intentional crash of fuel laden jetliners, a breach of operating reactors creates a significantly greater danger of catastrophic contamination. The danger of a potential release of high-risk radio-nucleides would be reduced by a temporary de-powering and cold shut down of these reactors.

Third, the operating facility creates multiple vulnerable points in plant security. While shutting down the reactors will not remove the need for security, the reduction in threat would allow the licensee to focus its protective efforts on the more critical areas of the facility, especially the spent fuel storage area, thereby concentrating resources where they are most valuable and most likely to effectively protect against the deadliest attack.

Fourth, Indian Point and NRC personnel and resources confront dual challenges when ensuring security at an operational facility. Currently, employees at Indian Point must ensure both the safe and stable generation of power and create a heightened security environment. Simultaneously, NRC personnel are tasked with overseeing the ordinary operations of the plant – which is the only nuclear plant in the nation with a D rating (multiple/repetitive degraded cornerstone) from the NRC – while also ensuring protection against foreseeable threats. Resources of both the agency and the licensee are stretched thin by this double-tasking.

Finally, shutting down Indian Point's reactors creates a more secure environment. Spent fuel security has never been demonstrated at Indian Point. A provisional shut down of the plant is needed to allow the licensee and the NRC to test critical security provisions for this facility. "Business as usual" operation of Indian Point provides no incentive for the plant's owner and the NRC to remedy this long overlooked vulnerability.

For all of these reasons, an immediate, temporary shutdown of the operating reactors at Indian Point Units Two and Three is necessary and prudent.

B. The NRC Should Require the Licensee to Provide Information Documenting That Existing Security Measures Are Sufficient Against Plausible Threats of Terrorist Attacks.

Title 10, Section 2.204(a) of the Code of Federal Regulations authorizes the NRC to demand information from a licensee. The NRC should immediately demand that Entergy provide information documenting the existing and readily attainable security measures which provide the Indian Point facility with protection against land, water, and airborne terrorist attacks. Such information must provide, at a minimum, sufficient basis for the Commission to determine that physical barriers, intrusion alarms, and other measures are in place or may be easily constructed to meet plausible threats, for the following reasons:

Actual threats against nuclear power plants have been documented and the Indian Point facility is a plausible target of future terrorist actions. However, as explained above, the design-basis threat for Indian Point did not consider the possibility of an intentional terrorist attack from the air or water, or a suicide attack from any front. Security forces at nuclear power plants have repeatedly failed to repel mock terrorist attackers. Moreover, Indian Point has a long history of safety problems related to the ability to respond to emergency situations. Entergy, the new owner and licensee of Indian Point, has a demonstrably poor security record and it is clear from Entergy's history of violations that its ability to protect the facility against a terrorist attack is questionable at best.

Because a terrorist attack was not considered in the plant's design basis threat, because mock attacks at nuclear plants are rarely thwarted by security forces, and because this facility and its operator have notoriously poor security histories, the NRC should immediately demand all information necessary to determine whether Indian Point is, or can be secured against a land-, air- or water-based terrorist attack.

C. The NRC Should Immediately Modify The Operating License For Units Two And Three To Mandate, At Minimum, Security Measures Sufficient To Protect The Facility as Required by 10 CFR § 73.55.

As explained above, a successful attack on either of Indian Point's reactors or spent fuel storage facilities would likely result in a massive release of radioactive materials into the surrounding towns and counties, quite possibly reaching into and contaminating New York City. Such a release would cause hundreds of immediate fatalities close to the site and 100,000 or more latent cancer deaths farther downwind of the plant. Further, a major release would probably contaminate the drinking water supply for New York City and Westchester County, devastate the area's ecology, and render portions of the New York metropolitan area uninhabitable.

Faced with this catastrophic threat, the NRC should, at a minimum, take action to obtain the following security measures:

1. a permanent no-fly zone within 10 nautical miles of the Indian Point facility;
2. a defense and security system sufficient to protect and defend the no-fly zone; and
3. a defense and security system sufficient to protect the entire facility, including the containment and spent fuel storage buildings, control room and electricity equipment, from a land- or water-based terrorist attack.

These measures are necessary to comply with the requirements of 10 CFR § 73.55 regarding physical protection of licensed activities in nuclear power reactors against radiological sabotage.

D. The NRC Should Order the Revision of Entergy's Emergency Response Plan and Westchester County's Radiological Emergency Response Plan in Order to Account for Critical New Information and Prepare for Possible Terrorist Attacks.

The NRC should order the revision of Entergy's Emergency Response Plan and Westchester County's Radiological Emergency Response Plan in order to account and prepare for possible terrorist attacks. These reviews must contemplate not only realistic and catastrophic effects of a terrorist attack on the Indian Point facility, but a comprehensive response to multiple attacks in the region which may impair the efficient evacuation of the area. Examples of such attacks include destruction or blockage of the Tappan Zee Bridge, loss of power to passenger railroads, and other events which deny use of necessary infrastructure.

Westchester County's Radiological Emergency Preparedness Plan (REPP) was last revised in May of 2000 and does not address the site-specific, hazardous conditions of a sabotage event or a terrorist attack at the Indian Point facility. [\[64\]](#) Moreover, the REPP does not address the likelihood of class 9 event, a spent fuel storage area release, or a spent fuel assembly fire. The REPP is flawed as it is based on erroneous assumptions, therefore, REPP must be considered inadequate in providing protection to the public. The assumptions in the REPP preclude the occurrence of an intentional act of terrorism or sabotage, a class nine event involving Units Two or Three, the radiological release from the spent fuel storage area, a spent fuel rod fire, or the possibility of an explosion at the Indian Point facility. [\[65\]](#)

The inadequacies of emergency response at the Indian Point facility were known and considered decades ago, however no action was taken to resolve response problems. Based on the inherent inadequacies of the REPP and its preclusion of the new site-specific, hazardous condition posed by a terrorist threat, the REPP must be revised.

E. The NRC Should Order The Licensee To Undertake The Immediate Conversion of the Current Spent Fuel Storage Technology From A Water Cooled System To A Dry Cask System.

As explained above, terrorist action against the spent fuel storage facility could result in a catastrophic failure of the containment system. NRC has never established that the Indian Point spent fuel storage facility is secure against foreseeable attacks, nor can it be certain that the structure of the storage facility is sufficiently sound to preclude the possibility of a spent fuel fire in the event of an airborne, land, or water based assault. A likely result of an aircraft crashing into a spent fuel storage facility or of a truck bomb explosion would be a precipitous loss of cooling water in the spent fuel pools.

A reduction of cooling water in the spent fuel pools could lead to a catastrophic release of radiation. As the water in the fuel pool is reduced the remaining water will heat up and evaporate. This could expose the zirconium cladding which surrounds the spent fuel rods to oxygen and steam, resulting in an exothermic reaction that will lead to a spent fuel rod assembly fire. This event would release deadly amounts of radiological material and toxic fumes leading to horrific consequences. Fallout from this type of release could make tens of thousands of acres of land uninhabitable. The spent fuel storage buildings at Indian Point are not capable of withstanding a terrorist attack. The spent fuel storage area is highly vulnerable to an air attack and mitigation and control of damage from such an attack is highly improbable.

However, an alternative is available that would greatly reduce, or even eliminate, the risk of a pool fire. Specifically, the fuel could be stored dry, in robust steel casks that are cooled by natural circulation of air, and each cask could be surrounded by an earth-and-gravel berm, with substantial spacing between the casks.^[66] This storage arrangement would withstand a wide variety of determined acts of malice.^[67] The design basis for this storage arrangement could include a requirement, among other things, that the impact of a large, fuel-Laden aircraft on the storage facility would not lead to a release of radioactive material from more than one cask.^[68] A fuel storage facility constructed with such a design basis would not only be able to withstand or limit the consequences of a wide variety of acts of malice, but would also exhibit a very low probability of experiencing a substantial release of radioactive material due to events other than acts of malice.^[69]

Consequently, pursuant to its power under 10 CFR § 2.202 to modify licenses or take other appropriate action, the NRC should order Entergy to undertake the immediate conversion of the current spent fuel storage technology from a water cooled system to a dry cask system.

CONCLUSION

The NRC is confronted with a new challenge: how to protect the nation's most densely populated area and the environment from the threat of a terrorist attack on the Indian Point facility. While this may be a challenging and daunting task, the NRC must react quickly and in a determined manner. The temporary shutdown of the Indian Point facility will significantly reduce the potential catastrophic consequences if it experiences a terrorist attack. As the potential harm resulting from such an attack is reduced, the Indian Point facility becomes less of an attractive target to terrorists. Therefore, the temporary shutdown and increased protection of the Indian Point facility is the most logical action to be taken to protect public health and minimize danger to life.

The NRC should order Entergy and local municipalities to review and update their emergency response plans in consideration and response to a terrorist threat since: (1) the threat of a large, highly coordinated terrorist attack has not been previously considered in the licensing or the design basis threat of the Indian Point facility; (2) it also has not been considered in the development of Indian Point's emergency response plan; and (3) it has not been considered in the Radiological Emergency Response Plans developed by local municipalities. If Entergy and/or any municipality determines that it is infeasible to develop a Emergency Response Plan or a Radiological Emergency Preparedness Plan to meet this new

threat, then the NRC should order the shutdown of the Indian Point facility until the new site-specific, hazardous condition is abated.

Petitioners' requests are for reasonable and achievable measures that should be supported and implemented by the NRC. This is the only way NRC may uphold its congressional mandate to protect the lives, the environment and the property of the people of New York State.

Finally, in accordance with the Commission's petition guidance, Petitioners request a technical review meeting with the Petition Review Board (the "PRB"), including representatives of the Commission's Office of Nuclear Regulatory Research responsible for the Indian Point licenses at the earliest possible time and before any action is taken on this Petition.

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Nuclear Control Institute
STAR Foundation
Waterkeeper Alliance
Hudson River Sloop Clearwater

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Maurice Hinchey, U.S. Congress (D)
Jerrold Nadler, U.S. Congress (D)

Eric Schneiderman, NY State Senate (D)
Thomas Morahan, NY State Senator (R)
Suzi Oppenheimer, NY State Senate (D)
Richard Brodsky, NY State Assembly (D)
Samuel Colman, NY State Assembly (D)
Alexander Gromack, NY State Assembly (D)
Naomi Matusow, NY State Assembly (D)
Amy Paulin, NY State Assembly (D)
Ronald C. Tocci, NY State Assembly (D)

Stanley Michels, NY City Council (D)
Jim Genero, NY City Council (D)

Scott Vanderhoef, Rockland County Executive (R)
Tom Abinanti, Westchester County Board of Legislators (D)
George Latimer, Westchester County Board of Legislators (D)
Vincent Tamagna, Putnam County Board of Legislators (R)
Sam Oliverio, Putnam County Board of Legislators (D)
Harriet Cornell, Rockland County Board of Legislators (D)

Paul Feiner, Town Supervisor, Greenburgh (D)
Greenburgh Town Board
Charles Holbrook, Town Supervisor, Clarkstown (D)
John Dinin, Town Supervisor, Bedford (R)
Christopher P. St. Lawrence, Town Supervisor, Ramapo (D)

[1] According to year 2000 U.S. Census Bureau data, 19,086,634 people live within the twenty-six counties that are within 50 miles of Indian Point, available at <http://www.census.gov/index.html>.

[2] See The United States Conference of Mayors, *If U.S. City/County Metro Economies Were Nations*, at http://www.usmayors.org/cititesdriveeconomy/chart2_decade.pdf (last visited Nov. 7, 2001) (rankings based on gross domestic and metropolitan product 2000). Attached as Exhibit 1.

[3] Daniel Rubin, *Nuclear Terrorism Threat Growing*, KNIGHT RIDDER FOREIGN SERVICE (November 3, 2001) available at www.nci.org/01/11f/3-5.htm. Attached as Exhibit 2.

[4] CNN, *Threat at Three Mile Island Closes Airports*, October 18, 2001, available at www.cnn.com/2001/us/10/18/gen.three.mile.island/index.htm. Attached as Exhibit 3.

[5] International Atomic Energy Agency, *Calculating the New Global Nuclear Terrorism Threat* (November 1, 2001) available at www.iaea.org/worldatom/Press/P_release/2001/nt_Pressrelease.shtml. Attached as Exhibit 4.

[6] *Id.*

[7] Eric Pianin and Dan Eggen, *Preparations Stepped Up For Possible New Attacks*, WASHINGTON POST (November 1, 2001), available at www.washingtonpost.com/wp-dyn/articles/A20995-2001Oct.31.html. Attached as Exhibit 5.

[8] Lara Mansnerus and Judith Miller, *Terrorist Details His Training in Afghanistan*, N.Y. TIMES (July 4, 2001), available at www.nci.org/01/07/04-nyt-terrorist_afg.htm. Attached as Exhibit 6.

[9] *Id.*

[10] *Id.*

[11] Nicholas Rufford, David Leppard and Paul Eddy, *Nuclear Mystery: Crashed Plane's Target May Have Been Reactor*, SUNDAY TIMES (London, UK) (October 21, 2001), available at www.sunday-times.co.uk/news/pages/sti/2001/10/21/stiusausa02018.html. Attached as Exhibit 7.

[12] CNN, *FAA Restricts Flights Near World Series, Nuclear Plants* (October 30, 2001), available at <http://edition.cnn.com/2001/us/10/30/gen.attack.on.terror>. Attached as Exhibit 8.

[13] William Branigin, *In Afghan Jail, a Terrorist Who Won't Surrender*, WASHINGTON POST (October 30, 2001), available at www.washingtonpost.com/wp-dyn/articles/A8758-2001Oct29.html. Attached as Exhibit 9.

[14] NRC, Press Release No. 01-112, *NRC Reacts to Terrorist Attacks* (September 21, 2001). Attached as Exhibit 10.

[15] *Id.*

- [16] NRC Report October, 2000 at 4-15. Attached as Exhibit 11.
- [17] NRC Report October, 2000 at 3-1 (internal citation omitted).
- [18] See US Department of Energy, Health and Environmental Consequences of the Chernobyl Nuclear Power Plant Accident, DOE/ER-0332 (Washington, DC: DOE. June 1987).
- [19] See V L Sailor et al, Severe Accidents in Spent Fuel Pools in Support of Generic Safety Issue 82, NUREG/CR-4982 (Washington, DC: NRC, July 1987).
- [20] See NRC Report October, 2000 at 3-34.
- [21] See NRC Report October, 2000 at 3-16.
- [22] See Vibeke Laroi, *Spent Nuclear Fuel Pools Seem Vulnerable To Attack*, REUTERS (Nov. 4, 2001).
- [23] Based on calculations assuming that there are 15 times as many cores in the spent fuel storage area than in the containment area.
- [24] NRC Report October, 2000 at 3-23.
- [25] *Id.* at 3-23.
- [26] *Id.* at 3-23.
- [27] *Id.* at 3-29.
- [28] *Id.*
- [29] Roger Witherspoon, *Indian Point Chief: Plant Safe From Possible Attack*, JOURNAL NEWS (October 20, 2001), *available at* www.thejournalnews.com/newsroom/102001/20entergy.html. Attached as Exhibit 12.
- [30] NRC Press Release, *NRC Reacts to Terrorist Attacks*, September 21, 2001.
- [31] Vibeke Laroi, *Nuclear Plant Scare Adds to U.S. Security Jitters*, REUTERS (October 18, 2001). Attached as Exhibit 13.
- [32] U.S. Energy Department's Argonne National Laboratory Study, 1982.
- [33] *Id.*
- [34] *Id.*
- [35] Douglas Pasternak, *A Nuclear Nightmare*, U.S. WORLD & NEWS REPORT (September 17, 2001), *available at* www.nci.org/01/09/09-3.htm. Attached as Exhibit 14.
- [36] The Nuclear Control Institute (NCI) is a non-partisan and non-profit Washington, D.C. based, independent research and advocacy center specializing in problems of nuclear proliferation.
- [37] Paul L. Leventhal, Commencement Address to the Class of 2001 at Franklin & Marshall College (May 13, 2001). Attached as Exhibit 15.
- [38] NRC News release of September 21, 2001 (No. 01-112).
- [39] NRC Enforcement Action EA-00-093, dated August 4, 2000.
- [40] *Id.* at 1 (regulation entitled "Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage").
- [41] *Id.* at 5.
- [42] Independent Action IA 96-052 against Richard M. Gracin, Security Shift Supervisor, dated December 19, 1996.

- [43] History of NRC violations: NRC OE EA 96-274 \$50,000 fine - maintenance violation; NRC OE EA 96-025 \$50,000 fine - safety system violations; NRC OE EA 95-076 unauthorized people gaining unescorted access to secure areas ; NRC OE EA 94-161 unauthorized access to felons; NRC OE EA 94-105 \$112,000 fine - safety violation penalty; NRC OE EA 93-071 \$112,500 fine - violation of physical security and safety problems.
- [44] See Shawn Cohen, *NRC Flags ConEd With Red Tag For Indian Point*, THE JOURNAL NEWS (November, 21, 2000). Attached as Exhibit 16.
- [45] See NRC, *Inside NRC*, 2000.
- [46] Sandia Labs, NRC, Calculation of Reactor Accident Consequences (1982) (“CRAC-2 Report”). (We understand that the NRC has a more recent model or code for performing these estimates. We encourage the Commission to update these figures.)
- [47] *Id.*
- [48] *Id.*
- [49] *At Indian Pt., A History of Nuclear Power, Problems And Controversy*, N.Y. TIMES (May 6, 1983). Attached as Exhibit 17.
- [50] Sandia Labs, NRC, Calculation of Reactor Accident Consequences (1982).
- [51] *Id.*
- [52] See The Inflation Calculator, available at <http://www.westegg.com/inflation/> (based on increases in the Consumer Price Index) (last visited Nov. 7, 2001).
- [53] See New York State Office of Real Property Services, *Exemptions From Real Property Taxation In New York State* (1982 & 1999 reports), available at <http://www.orps.state.ny.us/>.
- [54] Indian Point Radiological Emergency Preparedness Plan for Westchester County, Revision May, 2000, at I-3.
- [55] *Id.* at I-3, I-4.
- [56] *Id.* at I-4.
- [57] *Id.*
- [58] *At Indian Pt., A History of Nuclear Power, Problems And Controversy*, N.Y. TIMES (May 6, 1983). Attached as Exhibit 17.
- [59] 42 U.S.C. § 2201(b), (i).
- [60] *Union of Concerned Scientists v. NRC*, 824 F.2d 108, 110 (D.C. Cir. 1987).
- [61] *Shoreham-Wading River Cent. Sch. Dist. v. U.S. NRC*, 931 F.2d 102, 106 (D.C. Cir. 1991) (*citing* 42 U.S.C. § 2232(a)).
- [62] Conference Report at 47, 1982 U.S. Code Cong. & Admin. News at 3617.
- [63] 10 C.F.R. § 2.202.
- [64] Indian Point Radiological Emergency Preparedness Plan for Westchester County, Revision May, 2000.
- [65] *Id.* at I-3, I-4.
- [66] Telephone conversation with Ed Lyman, Nuclear Physicist at Nuclear Control Institute (Nov. 6, 2001).
- [67] *Id.*
- [68] *Id.*
- [69] *Id.*