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August 9, 2002

Via DHL Courier

Mr. John A. Zwolinski, Director  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation  
Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

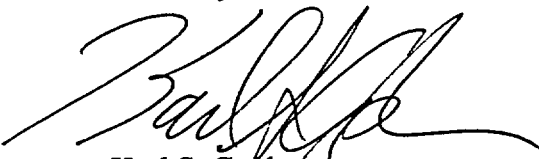
Re: In the Matter of Entergy Nuclear Operations  
Docket Nos. 50-003, 50-247, 50-286  
Petition of Riverkeeper, Inc. et al.

Dear Mr. Zwolinski:

I am enclosing herewith Petitioners Riverkeeper, Inc. et al's comments on the Proposed Director's Decision released on May 16, 2002 in the above petition pursuant to 10 C.F.R. § 2.206.

Thank you for the opportunity to comment on the proposed decision.

Sincerely,



Karl S. Coplan

cc: John Fulton, Esq., Entergy Nuclear Operations, Inc.



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 Nos. 50-003, 50-247,
50-Units No. 2 and 3; Facility Operating	:	286
Licenses DPR-26 and DPR-64)	:	
-----	:	August 9, 2002

RIVERKEEPER, INC., et al,  
Petitioners

**COMMENTS ON MAY 16, 2002 PROPOSED DIRECTOR'S DECISION ON  
RIVERKEEPER'S NOVEMBER 8<sup>TH</sup> PETITION 2.206 REQUEST FOR  
EMERGENCY SHUTDOWN OF INDIAN POINT UNITS 2 AND 3**

**Restatement of Request for Action**

Riverkeeper, Inc. and the individual and organizational petitioners identified on the attached page (collectively, "Petitioners") hereby submit the following comments in response to the NRC's proposed Director's Decision to petitioner's November 8<sup>th</sup> petition. Since September 11, the fundamental assumptions about the safety of nuclear power plants and the nature and likelihood of an assault on such plants have changed. The Commission is faced with a choice between protecting the investment of nuclear plant operators, such as Entergy, who knowingly took on the economic risks of operating a nuclear power plant, and assuring the health and safety of civilian populations surrounding such plants, who have never been given the choice of whether to assume these new risks to nuclear plant operations. Unfortunately, the proposed decision would protect the operators' economic interests at the expense of the safety and security of the surrounding population. The proposed Director's Decision fails to provide assurance of the public health and safety with the continued operation of the Indian Point nuclear power facility in the face of plausible terrorist attack scenarios following the September 11 attacks on

the World Trade Center and the state of war with the Al Qaeda terrorist organization. Accordingly, Petitioners request that the Commission modify its proposed decision in order to afford the relief originally requested by Petitioners, including an immediate shutdown of the Indian Point nuclear power plant, with its restarting contingent upon implementation of adequate security measures to protect the plant against airborne and seaborne terrorist attacks.

According to a recent National Research Council report, "the potential for a September 11-type surprise attack in the near term using U.S. assets such as airplanes appears to be high." National Research Council, Making the Nation Safer - The Role of Science and Technology in Countering Terrorism, at p. 50 (available at <http://books.nap.edu/html/stct/index.html>). The Commission, in its proposed decision, acknowledges the "gap" between the licensee's capability to protect against air attacks and the protection afforded by the government. Proposed Decision at 21. Yet, despite this gap, in its Proposed Decision, the Commission essentially proposes to do nothing to protect the public from the very threat of aircraft attack that the National Research Council has ranked as "high." This failure of the Commission to act, if incorporated in a final decision, can only be characterized as a complete abdication of the Commission's statutory duty to protect the public health and safety. See Atomic Energy Act § 103, 42 U.S.C. § 2133(d).

Petitioners repeat their request that the NRC implement 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 2 and Unit 3, 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 2 and 3 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 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.

Petitioners will demonstrate in the following comments that security provided by Entergy and Wackenhut Services and security and intelligence provided by various federal agencies cannot defend against an attack on Indian Point of the scale, sophistication, and coordination demonstrated on September 11, 2001. Based on this threat, the Petitioners renew their request that the United States Nuclear Regulatory Commission suspend the operating licenses for all the Indian Point units.

#### **I. There is a Gap Between the Present Terrorist Threat and the Indian Point Nuclear Power Facility's Security Measures.**

In light of the September 11 attacks, much of the Nation has been alerted to the necessity of protecting sensitive infrastructure from possible terrorist attack. Efforts to upgrade security and safety around the United States continue, often with mixed results.

Yet, at Indian Point, efforts to upgrade security seem to be lagging more than the norm. Despite measures taken between the September 11 attacks and the present day, the Indian Point nuclear facility remains vulnerable to terrorist attack. The Nuclear Regulatory Commission even acknowledged on page 9 of its proposed decision that “although the NRC cannot rule out the possibility of future terrorist activity directed at a [nuclear power plant] licensee’s site before implementing any further enhancements to its safeguard programs, the NRC believes that these facilities can continue to operate safely.” The Commission further acknowledges that “Any gap between the licensee capability and the assumed threat must be assumed by the government, and the government must prepare for this.” Proposed Decision at 21.

In other words, while the NRC acknowledges that a gap in the security of the Indian Point facility exists, NRC is still willing, at least for the immediate future, to live with this gap that leaves the 20 million people residing in the Hudson River Valley and New York City vulnerable to nuclear catastrophe. The petitioners are unwilling to accept this conclusion.

A. NRC Cannot Rely on the Lack of a Specific Credible Threat of a Terrorist Attack on Indian Point, as the National Research Council has Ranked the “Near Term” Risk of a Terrorist Attack on a Nuclear Power Plant as “High.”

Despite acknowledging the real risk of catastrophic results of an aerial terrorist attack on Indian Point and the gap between air defense provided by the plant operator and that needed for effective defense, the Commission, in its proposed decision, is nonetheless willing to accept the risk of a terrorist attack occurring before this gap can be filled. Apparently, the Commission would take comfort in imposing this risk on the population around Indian Point because “since September 11, there have been no specific credible threats of a terrorist attack on a nuclear power plant.” Proposed Decision at 20. The Commission’s proposed decision thus ignores the nature of terrorist attacks (which are not usually preceded by a “specific credible threat”). This premise of the proposed decision is also directly contradicted by a recent report of the National Research Council, which ranks the “near term” threat of a terrorist surprise air attack on a nuclear power plant as “high.” National Research Council, *Making the Nation Safer - The Role of Science and Technology in Countering Terrorism*, p. 50. (See attached Exhibit A)

By their very nature, terrorist attacks are not preceded by “specific credible threats” identified by United States intelligence agencies. Certainly, the World Trade Center attack was

not the subject of such a “specific credible threat”; nor was the bombing of the U.S.S. Cole in Yemen. The mere lack of advance intelligence warning does not make an attack on a U.S. nuclear plant unlikely, or excuse the Commission from taking immediate measures to protect public safety from the effects of an attack that now appears likely, if unpredictable.<sup>1</sup>

In fact, the National Research Council has performed a recent, detailed assessment of the likelihood of various radiological attacks by terrorists, and has concluded that “the potential for a September 11-type surprise attack in the near term using U.S. assets such as airplanes appears to be high.” *Id.* at p. 50. The report notes that such plants “may present a tempting, high visibility target for terrorist attack.” *Id.* at p. 50. There is no more highly visible and tempting nuclear power plant target in the country than the Indian Point nuclear power generating station. And, as the National Research Council Report notes, “such attacks could potentially have severe consequences.”

Petitioners have thus identified a potential incident – airborne terrorist attack – for which there is a “high risk” as assessed by the National Research Council, and for which the Indian Point plants have no protection. This is not a case where the Commission is being asked to take extraordinary measures to respond to a miniscule risk; rather, the Commission is being asked to take immediate measures to respond to a risk that is “high” in the “near term.” Ignoring this risk is an abdication of the Commission’s duty to protect the public.

#### B. Airspace around Indian Point is Not Secure

Examination of the current security measures in and around Indian Point show that the present measures are not sufficient to deal with the threat of terrorist attack that now exists. Firstly, the airspace around Indian Point is far from secure. Numerous incidents involving

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<sup>1</sup> Moreover, contrary to the assertion in the Proposed Decision, there have been specific credible threats of an attack on U.S. nuclear power plants. On May 24, 2002: The Nuclear Regulatory Commission sent a special advisory to the nation’s 103 commercial nuclear power plants. The advisory, triggered by information gained by the intelligence community, warned nuclear power plant operators to be on the lookout and to report anything suspicious to the operations center. A January 23, 2002 NRC memo alerted nuclear power plants that terrorists may be planning an attack on a nuclear power reactor using a hijacked commercial airliner. – “FBI headquarters has provided the following information to all field offices. During debriefings of an al Qaeda senior operative, he stated there would be a second airline attack in the U.S. The attack was already planned and three individuals were on the ground in the states recruiting non-Arabs to take part in the attack. The plan is to fly a commercial aircraft into a nuclear power plant to be chosen by the team on the ground.”

violation of protected airspace, either of Indian Point or of other restricted sites, have occurred with alarming frequency since the September 11 attacks.

On April 18, 2002, Senator Clinton sent letters to the Nuclear Regulatory Commission and the Federal Aviation Administration demanding an explanation in response to a recent revelation that a reporter from Fox News, without displaying identification up front, was able to hire a pilot of a small plane to take him directly over the Indian Point nuclear facility for an extended period of time without interference. In letters to FAA Administrator Jane F. Garvey and to NRC Chairman Richard A. Meserve, Senator Clinton expressed her "grave concern" over the incident and stated that "like it or not, our nuclear facilities are potential targets for future terrorist activity. So we must be as vigilant as possible to ensure that these plants are not only operated safely, but that the plants and the communities in which they are situated are afforded the highest level of security, emergency planning, and preparedness against potential terrorist and criminal attacks."

If a civilian reporter can hire a small plane pilot to take him over the Indian Point facility for an extended period without interference, then it can hardly be asserted that the airspace over Indian Point is secure. Even a small plane flying into the Indian Point facility can do significant damage, especially one loaded with explosives.

Another piece of information showing that the airspace in the United States is not secure comes from an Associated Press news article. This article, titled "Planes Often Enter Prohibited Air" (See attached Exhibit B) and published on April 5, 2002, reported that, despite military patrols and tighter security, pilots had intruded into America's protected airspace at least 567 times in the seven months since Sept. 11, highlighting the continued challenges of thwarting a terrorist air attack. In each case, a pilot wrongly flew into one of the country's six prohibited flight zones, where no planes are allowed, or into one of many restricted zones where air traffic is limited because of sensitive military or nuclear operations or special events. As of this filing, more violations of protected airspace have no doubt occurred in the intervening three months.

Of all our American institutions, one would expect that the greatest effort to successfully secure airspace would be made for the White House. Unfortunately, even though the airspace over the White House has been heavily restricted for years and a new 15-mile no-fly zone was established after September 11, several unauthorized flyovers have occurred at the White House

since the attacks on the World Trade Center and the Pentagon, including at least four commercial jetliners and a medical helicopter. "Planes Often Enter Prohibited Air" (See attached Exhibit B).

The latest of these flyovers occurred on June 20, 2002 and clearly illustrated the difficulty of relying even on the US Air Force to secure restricted airspace. On June 20, a small, single-engine plane wandered into the restricted airspace over Washington, D.C. and, despite repeated attempts, air traffic controllers in the area were unable to contact the pilot. Air Force F-16 fighter jets were immediately scrambled to intercept the plane, but by the time the fighters were airborne, the small plane had already left the restricted zone. Had the pilot actually intended to ram the White House, even the United States Air Force would have been unable to prevent it.

Clearly, these events show that securing restricted airspace in the wake of September 11 is a notoriously difficult exercise. The NRC's reliance on present methods of securing airspace seems woefully insufficient to protect the Indian Point facility from an attack from the air. Since the nation is unable to prevent aircraft from entering *restricted* airspace, the unrestricted airspace above the Indian Point nuclear power plant is clearly vulnerable.

### C. Indian Point is Not Secure from Breaches in Airport Security

The NRC has stated on page 21 in its Proposed Decision that it will rely on airport security to safeguard the Indian Point facility from a terrorist attack from the air. In fact, the NRC went so far as to say "in light of the difficulty in protecting the numerous specific potential targets of an air attack, the NRC believes that the nation's resources devoted to protection against terrorist attacks by air should be primarily directed towards enhancing security at airports and within airplanes in flight."

However, this reliance on airport security will not enhance the safety of Indian Point in any way from civilian-owned planes that take off and land at smaller airports. While the Office of Homeland Security concentrates on commercial airliners and major airports, very little oversight has been put on civilian craft. There is nothing to prevent a terrorist from purchasing or renting a small single-engine plane, taking off from a small airport and taking a direct course to the Indian Point facility. The NRC said that a small plane would be unlikely to breach the Indian Point containment dome. This is still in dispute, but even if it was not, there are other ways in which a small plane could cause catastrophic damage to Indian Point, such as a small plane loaded with explosives. Such examples include merely driving the small plane into the spent



fuel storage facility or even the control room. NRC has made no mention of how it intends to protect the Indian Point facility from such an attack.

Reliance on airport security at the Nation's major airports to protect against a suicide attack in a commercial airliner is similarly questionable. In March 2002, the Transportation Department inspector general released a report that found airport security screeners on several dozen occasions failed to catch guns and simulated explosives, even after the September terrorist attacks. Inspector General Kenneth Mead's report found screeners missed knives 70 percent of the time, guns 30 percent of the time and simulated explosives 60 percent of the time. Also, according to the Federal Aviation Administration, security breaches caused the government to evacuate 59 airport concourses or terminals between October 30, 2001 and March 7, 2002, forcing 2,456 flights to be delayed or canceled. Passengers on another 734 flights had to leave their seats and go through security a second time. "Airport Security Gets an 'F,'" CBSNews, March 25, 2002 (See attached Exhibit B)

This is a huge failure rate that exposes the fallacy of relying on airport security to protect nuclear power plants. With this sort of ease of smuggling weapons through the airports, terrorists could effortlessly hijack an airliner and use it as a weapon against any nuclear facility, including Indian Point.

#### D. Indian Point's Spent Fuel Storage Facility and Cooling Water Intakes are also Vulnerable to Attack

Terrorists need not fly an airliner directly into the containment dome of a nuclear power plant to cause a breach of containment and catastrophic release of radiation. An attack on the spent fuel water-cooling pools of a nuclear plant would be enough to cause loss of coolant to the point where the highly radioactive used fuel melts and releases huge amounts of radiation. Indian Point's spent fuel facility is particularly vulnerable to attack as the roofs of these storage buildings are constructed out of insubstantial sheet metal. The spent fuel storage buildings at Indian Point were also constructed with rather thin walls. This sort of building is not sturdy enough to stand up to a determined terrorist attack, whether by a hijacked airplane or by an armed group of attackers on the ground who detonate explosives.

Recent information also shows that plant cooling intakes could be vulnerable to a scuba-based terrorist attack. On May 24, 2002, the FBI issued another warning saying scuba divers

might be used in terror attacks, but the FBI was vague about the likely scenarios. "Recent information has determined that various terrorist elements have sought to develop an offensive scuba diver capability," the FBI said in a bulletin issued by its National Infrastructure Protection Center and sent to state and local law enforcement agencies. "While there is no evidence of operational planning to utilize scuba divers to carry out attacks within the United States, there is a body of information showing the desire to obtain such capability." "Subways, Scuba Divers and Landmarks," ABCNews, May 27, 2002. (See attached Exhibit C)

Can present security measures at Indian Point defend against an attack involving scuba divers detonating explosives to cripple the cooling intake technology? It is doubtful this question has ever before been conceived of before September 11, let alone actively evaluated by the NRC and the various licensees of the Nation's nuclear power plants. This vulnerability at Indian Point also has to be addressed.

#### E. Indian Point's Design Basis Threat (DBT) Does Not Adequately Address Present Terrorist Threats to the Indian Point Facility

Indian Point's design basis threat did not consider safeguarding the facility from methods of deliberate attack by terrorists, whether by land, water or suicide attack. On March 25, 2002, U.S. Congressional Rep. Edward Markey released a report entitled "Security Gap: A Hard Look At the Soft Spots in Our Civilian Nuclear Reactor Security" that analyzed more than 100 pages of Nuclear Regulatory Commission (NRC) correspondence sent to the Congressman in response to several letters. The report indicates that in no case has any U.S. licensee considered the possibility of a deliberate aircraft impact such as the one that occurred on September 11, 2001. Twenty-one U.S. nuclear reactors are located within 5 miles of an airport, but 96% of all U.S. reactors, including Indian Point, were designed without regard for the potential for impact from even a small aircraft. According to the NRC Response, only 4 U.S. reactors include any design features calculated to withstand the impact of an airplane. The Limerick (Philadelphia, PA) and Seabrook (Portsmouth, NH) reactor designs were evaluated to consider impacts from aircraft weighing up to 12,500 pounds – less than 3-5 percent of the weight of the Boeing 757s/767s aimed at the World Trade Center and the Pentagon. Only the Three Mile Island units 1 and 2 near Harrisburg, PA, were designed with the impact of a large airliner in mind. According to the NRC Response, Unit 1 was designed with "reinforcement of outer walls, thickening of concrete

sections, and unique internal features. In addition, special fire protection and ventilation features were provided to cope with aircraft crashes. Similar features were incorporated in Three Mile Island Unit 2.” The design features were made so that the reactors could withstand the impact of planes weighing up to 200,000 pounds. The NRC Response to Congressman Markey’s inquiries states that the U.S. chose not to require additional protection against the impact of an aircraft because “The likelihood of an airplane accidentally crashing onto a reactor site in the U.S. is typically much lower than in Europe.” See Footnote 11 of “Security Gap: A Hard Look At the Soft Spots in Our Civilian Nuclear Reactor Security”

Aircraft impact to the containment structure of a nuclear reactor is not the only way an aircraft could cause a full-scale core meltdown. The NRC Response acknowledges that there are buildings other than the core of the reactor (which is a hardened structure) that could lead to a core meltdown if destroyed by the impact of a commercial aircraft: “The NRC recognizes that aircraft crashes may result in multiple-failure initiating events, and that non-safety system malfunctions could contribute to such events.” If all electrical power to a reactor was cut off (by a deliberate crash of an aircraft into the power generating systems, for example), the time it would take for damage to the reactor core to begin is estimated by the NRC to be about two hours. Support systems for the reactor, such as the cooling system, are not located within buildings that are hardened (such as the reactor core) and “are not designed to withstand the direct impact of a large commercial aircraft.” The destruction of some of these buildings could lead to core damage. These acknowledgments by the NRC are highly significant, because they indicate that claims by the nuclear industry that existing plants would be able to withstand a terrorist aircraft or other attack due to the strength of containment structures are irrelevant to the very real risk that terrorists might target critical support infrastructure whose destruction could result in a catastrophic nuclear accident.

Since September 11, the Federal government has issued many warnings that Al Qaeda terrorists may try to hijack another plane and use it as a weapon in the same exact manner as they did on the World Trade Center and the Pentagon. This makes it plainly obvious that the DBT as it is now established is simply not adequate to deal with present possible threats to nuclear power plants in general and the Indian Point facility in particular.

## **II. NRC's Proposed Actions are Insufficient to Close the Security Gap Now Present At Indian Point.**

### **A. The FAA Notice to Airmen is Insufficient to Protect the Airspace around Indian Point**

As the NRC noted in its proposed decision, the FAA issued a Notice To Airmen (NOTAM) on September 26, 2001 that advised all pilots to avoid the airspace above and around sensitive buildings, including those of nuclear power plants. However, as was noted above, this NOTAM has not prevented hundreds of unauthorized penetrations of restricted airspace from occurring. Since September 11, there have been nearly a dozen unauthorized flyovers in the vicinity of the White House alone.

For the NRC to say that the NOTAM is a security measure that is sufficient to protect our nuclear power plants from aerial attack is simply not credible in light of these hundreds of airspace violations. The idea that terrorist attackers bent on destroying the Indian Point plant would refrain from entering the airspace because a "Notice to Airmen" warns them not to is facially ludicrous.

The NRC also claimed in its proposed decision that it issued a warning to all nuclear power plant licensees to "report any flyovers that are considered too close to their sites or that are of a suspicious nature to the local FAA, local FBI, local law enforcement, and the NRC." Proposed Decision at 20. While the NRC may believe this to be an effective measure, the reality of the situation is quite different. The difficulty and time consumption of the notification of "suspicious aircraft" to these several different agencies should be plainly obvious. It is also unclear how the NRC expects the efforts of these varied agencies will be coordinated in response to a suspicious aircraft. Nor it is clear what actions these agencies will take in response to being notified of a suspicious aircraft. Also, it is simply not credible that notifying these agencies of a suspicious aircraft while it is hurtling towards a nuclear power plant at speeds in excess of 500 miles an hour will be able to prevent a nuclear catastrophe once the aircraft impacts the power plant.

### **B. Reliance on the US Intelligence Agencies Will Not Suffice to Ensure Security at Indian Point**

The NRC mentions in its proposed decision that it will coordinate its efforts to help secure the Nation's nuclear power plants with several federal agencies, including the US

intelligence services such as the Central Intelligence Agency and the Federal Bureau of Investigation. This is all well and good, but an over-reliance on the intelligence agencies to prevent terrorist attacks on our nuclear power plants is questionable.

Intelligence failures on the part of the FBI and the CIA concerning their inability to pool their resources and coordinate their anti-terrorism efforts have been reported at length in the media since September 11. Several FBI agents in Minnesota and Arizona have disclosed that they took notice of suspicious actions by Middle Eastern men who showed a special interest in learning how to fly commercial airplanes, but the agents' superiors did not react quickly to the warnings. According to U.S. officials, the CIA learned in early 2000 that two of the men who would eventually become the September 11 hijackers held a meeting in Malaysia. Unfortunately, the CIA did not inform domestic authorities (including the FBI) to watch for these two men until three weeks before the September 11 attacks. A former senior official of the FBI said this about the Bureau: "The FBI is the greatest in the world at investigating a crime after it happened, but it is not equipped to prevent crimes. It wasn't in the 90's, it wasn't on 9/11. We didn't know what we knew." June 2, 2002 NY Times, "Wary of Risk, Slow to Adapt, FBI Stumbles in Terror War."

While it is good that the NRC wishes to coordinate its efforts of securing the Nation's nuclear power plants with the US intelligence services, it is clear that much more remains to be done in reorganizing the coordination efforts of the intelligence services so that they can prevent further terrorist attacks. However, the intelligence agencies have other important responsibilities to maintain besides that of preventing terrorist attacks so any reorganization of the intelligence services will have to keep their old responsibilities intact as well as prepare them for terrorist attack prevention.

It must also be realized that the FBI is designed to investigate crimes (including terrorist crimes) *after* they happen; it is not geared towards preventing such attacks. The same can be said of the other post-9/11 intelligence agencies. This is at odds with the NRC's mission, which is to protect the public health and safety by *preventing* such attacks on our nuclear power plants before they can occur. Considering the conflicting goals of the NRC and the nation's intelligence services and the fact that the reorganization of the intelligence services to their new tasks will take a significant amount of time, it would be unwise for the NRC to simply pass the responsibility of prevention to the intelligence services in the interim.

### C. Reliance on Airport Security is Not Enough to Prevent an Aerial Terrorist Attack on Indian Point

As noted above, the NRC stated in its proposed decision that it intends to rely on enhancement of airport security by the Federal government as a valid security measure that will help protect the Indian Point nuclear facility from an aerial terrorist attack. Unfortunately, there is a great deal of evidence that airport security today, even in the wake of improvements made since September 11, is still found wanting.

On April 15, 2002, the Washington Post reported that there is significantly less security at the cargo handling and private plane sections of the Nation's airports than there is for the commercial airline passengers. Furthermore, airport workers with access to these restricted areas could move from there into the commercial areas of the airports unscreened by airport security. No metal detectors are even present in the restricted areas of the airports. Experts interviewed by the Washington Post said they were worried that terrorists might try to exploit these weaknesses to gain access to commercial aircraft. Since Sept. 11, beefed-up security at airports has concentrated on passengers, right down to their shoes, but not on the "back doors" of airports. "It doesn't take a rocket scientist to come up with the conclusion that if I devote all my resources and attention to one segment of security [of security]...and delay attention [elsewhere], I'm asking for trouble," Capt. Bob Miller, a pilot for United Parcel Service and president of the Coalition of Airline Pilots Associations, told the Washington Post. April 15, 2002 Washington Post "Security Gaps Remain at Dulles Airport"

On Tuesday, April 23, 2002, Federal authorities rounded up 94 workers at Washington-area airports on a variety of charges from illegal immigration to lying about a criminal background, Attorney General John Ashcroft announced. The arrests at Dulles and Reagan National airports were part of a continuing post-Sept. 11 crackdown by U.S. law enforcement and transportation authorities on airport security lapses. Ashcroft said the workers allegedly gained access to secure areas of the airports "by lying on security applications," using false Social Security numbers or committing "various immigration frauds." The April 15<sup>th</sup> operation was a joint effort that included the FBI, the Immigration and Naturalization Service, federal prosecutors and the Transportation Department's inspector general. Similar arrests have occurred in the weeks leading up to the April 15<sup>th</sup> operation in Phoenix, Las Vegas, Salt Lake City and

San Francisco. At the time of the bust, about 400 workers have been arrested since Sept. 11. The investigation, called Operation Tarmac, had spread to 10 airports before the April 15<sup>th</sup> arrests. Most of the workers arrested had security badges allowing them to get onto planes, ramps, runways and cargo areas, law enforcement officials said. They were employed by private companies, such as those that clean the airplanes or operate airport restaurants. While law enforcement officials said none of those arrested have been linked to terrorism, some aviation experts said the workers were in a position to help smuggle bombs or weapons aboard aircraft. "Dozens of Airport Workers Arrested" CBSNEWS.com, April 23, 2002. (See attached Exhibit D)

Time Magazine conducted an investigation of airport security in March 2002 and discovered that recent security measures had not improved the Nation's security. An excerpt of this article states: "Random screenings and camouflaged soldiers in airports have not made flying more secure. Sensible proposals long sought by aviation experts – such as requiring carriers to match all bags to passengers on connecting flights – have not been adopted. The congressional mandate to install 2,200 explosive-detection devices in all 429 airports by the end of the year has been scaled down. While the new Transportation Security Administration plans to buy almost 5,000 trace-detection devices, little is being done in the meantime. The TSA is having trouble recruiting more than 40,000 new screeners. So far, government-trained screeners have taken up positions in exactly one airport. Some experts say the United States' haphazard security procedures may only invite terrorists to try their luck. Because airports, carriers and the government haven't yet implemented a methodical system for identifying potential terrorists, everyone from pilots to grandmothers is subject to random screening. In the long run, that can work in the enemy's favor. 'The U.S. has the bad guys celebrating this inefficient use of resources,' says Lior Zoucker, who heads an aviation-security firm. 'Terrorists like a system that treats everyone the same.'" May 27, 2002 Time Special Report "While America Slept"

These and many other instances show that airport security is still insufficient to protect commercial airlines from being taken over by terrorists and used against American targets.

**D. Without Public Oversight, Recent Secret NRC Orders Issued to all Operating Nuclear Power Facilities May Not Ensure that Security at Indian Point is Actually Enhanced.**

In the 2.206 petition Riverkeeper submitted, the petitioners asked that the NRC require Entergy to provide information documenting the present and readily attainable security measures which could be put in place at the Indian Point facility to protect against terrorist attack. In its proposed decision, the NRC said that it received a number of security recommendations from the New York Office of Public Security (OPS) but that these recommendations could not be revealed publicly because they are “not required under the current NRC regulations” (Proposed Decision at 18) and because “of the sensitivity of the material.” (Proposed Decision at 18.)

While the petitioners can certainly appreciate the need for keeping sensitive information from falling into the hands of terrorists, NRC’s refusal to allow this information to be publicly released creates a danger that Entergy will be given a free pass to pay only minor lip service to making the Indian Point more secure against terrorist attack. If nothing about present or future security measures at Indian Point is allowed to come into the public domain, then the public cannot be reasonably informed about these measures and public notice and commentary and public oversight of Indian Point security becomes impossible.

The greatest danger that worries the petitioners in this case is that Entergy and the NRC will claim that further measures to secure Indian Point are underway, while in reality, Entergy and the NRC will use the excuse of “national security” to obscure a failure to implement sufficient security upgrades at Indian Point. This would be far more dangerous to the public health and safety than allowing piecemeal knowledge of security upgrades at Indian Point to fall into the hands of terrorists. If some knowledge of security upgrades at Indian Point that was made public did fall into the hands of terrorists, the security upgrades still have a chance of defeating the terrorists should they attack. But if *nothing* more is done, then the Indian Point facility remains that much more vulnerable to a terrorist attack.

It is in the interests of all the concerned parties (Entergy, the NRC, the petitioners and the general public), to allow public notice and comment of any new security measures to be made at Indian Point.

### **III. Petitioners’ Requested Actions will Suffice to Close Indian Point’s Security Gap & Ensure the Public’s Health and Safety**

**A. Temporarily Shutting Down the Indian Point Reactors As the Facility Undergoes a Full Review of Indian Point’s Security Measures and Vulnerabilities Will Provide Greater Security to the Public Health and Safety In and Around Indian Point.**



As has been demonstrated above, the Indian Point facility is vulnerable to terrorist attack by several different means, either by an aerial attack, a ground attack or an attack via the Hudson River. An aerial attack by a hijacked plane could release radioactive material from the IP facility by triggering a loss of coolant scenario whereby the fuel in the reactor core or the spent fuel pool building(s) suffers a fuel meltdown. A ground attack by an armed force of terrorists could allow these attackers to take over the IP control room or detonate explosives adjacent or within the spent fuel pool building(s), which could lead to catastrophic damage. An aquatic attack by terrorist scuba divers could damage the facilities cooling intakes.

A shutdown of the operating nuclear reactors at Indian Point would vastly reduce the threat of catastrophic nuclear release in a terrorist attack. According to a preliminary analysis conducted by the Nuclear Control Institute (NCI), after a shutdown of twenty days – which would greatly reduce the radioactive inventory in the core through decay – the number of acute fatalities (within a 10-mile radius) from a core meltdown and breach of containment could be reduced by 80% and the number of long-term cancer deaths (within a 50-mile radius) by 50%. A reactor core's inventory of short-lived radioisotopes is substantially reduced within a few days of shutdown, thus reducing the potential incidence of early health effects and thyroid cancers in surrounding populations if a release occurs.<sup>2</sup>

In addition, removing the fuel from the reactors – something that can be done approximately a week after shutdown – will allow security forces to focus their protection on the irradiated fuel pool where this highly radioactive used fuel is stored. A plant that is closed is no longer producing the irradiated fuel rods, which are most dangerous in the first six months upon removal from the reactor.

It is easier to protect and monitor a reactor that is shut down. The site is most vulnerable while the reactor is operating. There are a number of ways to cause a meltdown of the reactor: cutting off-site power, destroying the coolant intakes, sabotage/destruction of safety systems, destruction of the control room, as well as crashing a jet into the reactor. The propensity of a reactor core to melt, if the flow of cooling water to the core is interrupted, is substantially reduced within a few hours of shutdown.

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<sup>2</sup> Nuclear Control Institute, The Impact of Nuclear Plant Shutdown on Sever Accident Consequences, February 12, 2002.

With so many exploitable vulnerabilities, it would make sense for the NRC to order the temporary shutdown of Indian Point Units 2 and 3. If both units were shut down, a ground attack on the control rooms would be likely to cause less damage. If the reactors in Units 2 and 3 were placed into cold shutdown, less radioactive material would be released in the event a large airliner pierced the containment dome, damaged the reactor core cooling system and triggered a release of radiation. Furthermore, if Units 2 and 3 were shut off, this would allow Entergy to concentrate more on security especially in relation to safeguarding spent fuel pools. Since shutting down Units 2 and 3 would make the Indian Point facility more secure, it would also be prudent to conduct a full review of Indian Point's security measures while the two units are shut down.

#### B. Requiring Entergy to Reveal Information Regarding Present and Easily Attainable Security Measures at Indian Point will Help Determine How to Enhance Security at Indian Point.

Title 10, Section 2.204(a) authorizes the NRC to demand from any licensee "information for the purpose of determining whether an order under § 2.202 should be issued, or whether other action should be taken." It is clear that security at Indian Point needs to be enhanced, especially in the wake of September 11. Indian Point's DBT did not address the possibility of a terrorist attack, either by land, water or air. The DBT likewise did not address a suicide attack of any means by terrorists. Entergy has struggled with security at the Indian Point facility and some of its other plants. All these instances point up the necessity of upgrading security at Indian Point.

However, as noted above, the NRC claimed in its proposed decision that it has already taken measures to upgrade security at the Nation's power plants, including Indian Point, but cannot reveal the information concerning these new measures "due to the sensitivity of the material." While the petitioners can certainly appreciate this, a hallmark of NRC's ability to fulfil its responsibility of protecting the public health and security has been public oversight.

NRC indicates its desire to take its time with upgrading security at Indian Point in its proposed decision. While acknowledging the security gap that exists between present security measures at Indian Point and the current atmosphere of possible terrorist attack on the Indian Point facility, NRC said quite clearly that it is willing to live with the gap until new security measures have been implemented. By keeping those same measures secret with the invocation of "national security," NRC has a too-convenient opportunity to pay only lip service to

improvement of the security of the Nation's nuclear power plants while real action could languish. This is a matter of great public concern and needs to be discussed openly.

Unfortunately, the Operational Safeguard Response Evaluation tests designed to measure security at nuclear power plants have been suspended. Without the OSRE tests, the only way for Indian Point's security to be evaluated to the public's satisfaction would be for NRC to compel Entergy to release any and all necessary information relevant to determining whether Indian Point can be secured from terrorist attack. Anything less would be a less than complete effort to maintaining the public health and security.

### C. Modifying Entergy's License to Mandate Measures to Defend Indian Point's Airspace will Help Secure the IP Facility from Aerial Attack.

It has been shown above that the airspace around Indian Point is not secure from an aerial attack. This situation has to be changed as quickly as possible because a successful attack on either Indian Point's reactors or its spent fuel storage building could result in a catastrophic release of radioactive contamination that would directly affect the immediate surroundings and quite possibly extend to New York City.

While the NRC has stated, correctly, that Entergy is unqualified to place and operate anti-aircraft weaponry in and around Indian Point to protect its airspace, there are other available measures that can be readily implemented to speedily secure the airspace around the Indian Point nuclear facility and thereby prevent disaster. Similarly, while the petitioners concede that Entergy is not qualified to operate and man anti-aircraft defenses, this does not preclude the possibility of deployment of those defenses to protect Indian Point, and conditioning Indian Point's continued operation on obtaining these appropriate defenses from the federal government.

In October 2001, in the aftermath of the September 11 attacks, the nation of France deployed anti-aircraft weaponry around its most vulnerable nuclear facilities. Other measures, such as a no-fly zone and military fighter protection, were also implemented. While the anti-aircraft weapons around two of France's nuclear facilities were removed, the other measures remain in place.

Entergy's claim that anti-aircraft weaponry cannot be deployed around Indian Point because its employees are not qualified to operate such equipment is refuted by France's

deployment of similar equipment around its own nuclear plants. The employees working at France's nuclear power plants were likewise unqualified to operate military equipment. But what Entergy's claim does not foresee is that the petitioners are not asking Entergy or its employees to operate the anti-aircraft weaponry. Such a task can only fall to qualified military personnel serving in the US Army. In France the same thing was done: qualified military personnel, not the nuclear plant employees, operated the anti-aircraft weaponry while it was deployed around France's nuclear plants.

Also, the removal of the aircraft weaponry in France does not negate the petitioners' argument in favor of anti-aircraft weaponry deployed to protect Indian Point for several reasons. France evidently decided that the threat of aerial attack on its nuclear power plants had passed; the same is not true for the United States. Since September 11, the Office of Homeland Security and FBI has issued numerous warnings of possible and even imminent terrorist attack. Al Qaeda has made similar statements that it intends to strike at the United States in the near future. It is clear that a terrorist threat via an aerial attack to our Nation's nuclear facilities still exists, so deploying a defense system to protect our nuclear power plants, especially Indian Point, would be a prudent measure, both for now and in the foreseeable future.

Alternatively, deploying passive defenses such as a massive array of barrage balloons (interim) and tall poles linked by steel cables (long term) can play an important role in protecting Indian Point from an air attack. A barrage balloon is anchored singly or in a series over a potential target to block passage of attacking aircraft. Adding large earthen berms around the entire plants, which also can make an air attack much more difficult, especially if used in addition to barrage balloons. Earth berms also protect against attacks by rocket-propelled grenades and many other possible scenarios. Also, undersea netting needs to be installed to protect against submarines and scuba diver assaults.

Another measure the NRC would be wise to enact is the establishment of a permanent no-fly zone within 10 nautical miles of the Indian Point facility. As shown above, the NRC's warning to all nuclear power plant licensees to "report suspicious aircraft" is not sufficient to protect Indian Point, especially when such a plane could be under terrorist control and hurtling towards a nuclear power plant at speeds in excess of 500 mph. However, the establishment of a permanent no-fly zone around Indian Point would make all pilots aware of the necessity of avoiding the airspace around Indian Point. Combined with the deployment of anti-aircraft

weaponry around Indian Point, the 10-mile no-fly zone would serve to give defenders of the nuclear facility more lead time to make a proper decision on how best to defend Indian Point should a plane violate the facility's airspace.

It is the NRC's interest and in the interests of all the people living in the vicinity of Indian Point to have these measures enacted so that they can be protected from nuclear catastrophe by means of a terrorist attack. Furthermore, these actions are necessary and required under 10 CFR 73.55 which mandates physical protection of nuclear power plants from radiological sabotage.

#### D. Transferring Indian Point's Spent Fuel Facility to a Dry Cask System Will Greatly Improve Public Health and Safety.

As was noted above, Indian Point's spent fuel storage facility is vulnerable to attack, which could lead to devastating consequences. If the cooling water inside the facility is reduced, whether by an aerial attack or an attack by a group of armed attackers on the ground, the result will be the same: the remaining water will heat up and evaporate, causing a chain reaction of events that could lead to a spent fuel rod assembly fire.

The NRC admits in its proposed decision that "the spent fuel storage buildings are not as hardened as the reactor containment structures." Proposed Decision at 22. Yet it also goes on to say that the structures are, in fact, "robust." *Id.* at 22. It seems disingenuous for the NRC to claim that the spent fuel storage buildings, which consist of thin concrete walls and sheet metal roofs, are "robust" enough to withstand a terrorist attack, whether by a hijacked plane or by armed attackers on the ground.

The NRC also claims that the cooling pools in the spent fuel storage facility "are designed to prevent a rapid loss of water *with the structure intact.*" (*Id.* at 22, emphasis added). But what if the structure is *not* intact? Damage to the structure itself is eminently possible in the event of a terrorist attack. Indeed, should the terrorists use a plane (whether a small commuter plane or a hijacked airliner) to ram the storage facility, damage to the structure sufficient to reduce the water in the cooling pools is virtually assured.

It is for these reasons that the petitioners also respectfully request that NRC order Entergy to transfer all spent fuel over five years old from wet storage to hardened on-site dry storage systems. The dry cask system greatly reduces the risk of radioactive contamination in the event

of a terrorist attack on the storage facility. Mandating this conversion also enhances the NRC's ability to fulfil its duty to protect the public health and safety.

E. If NRC Will Not Order Entergy to Undertake the Requested Protective Actions, then NRC Should Mandate the Immediate and Permanent Shutdown of IP Units 2 and 3 to Protect the Public Health and Security.

The vulnerability of Indian Point as its security measures are now is clear. The Indian Point nuclear facility is in danger of an attack that could have devastating consequences for hundreds of thousands, if not millions, of people living in the vicinity of Indian Point. NRC has been charged with protecting the public health and safety. In order to fulfil this duty, it must undertake the actions which have been outlined above.

However, if there is any reason that the NRC cannot undertake the outlined actions, there is only one alternative available which would enable NRC to fulfil its duty of protecting the public health and safety. If the NRC cannot comply with the petitioners' requests, then the NRC must mandate the immediate and permanent shutdown of Indian Point Unit Two and Unit Three.

Possible radioactive contamination from a successful terrorist attack on the Indian Point facility is substantial, especially if security measures at Indian Point are not upgraded. However, if the reactors are shut down, the high risk of contamination from a rupturing of the containment dome goes down precipitously. Likewise, shutting off the reactors also reduces the risk of releasing radioisotopes, which was responsible for many radiation illnesses in the wake of the Chernobyl accident. Finally, turning off Units Two and Three will make Indian Point less attractive as a terrorist target. This is so because terrorists are interested in "economy of force," that is, causing the maximum amount of damage for the least effort expended. By shutting down the Indian Point facility, the potential for causing catastrophic damage that could take the lives of many Americans is markedly reduced. As such, the damage that could be caused by attacking Indian Point after Units Two and Three have been shut down will not be worth the effort necessary to conduct the attack. Thus, shutting down Units Two and Three makes Indian Point a target that terrorists will deem not worth attacking. This thereby leaves the people living in and around Indian Point safe from nuclear disaster, thus enhancing the public health and safety.

#### **IV. NRC has Broad Discretionary Powers to Order and Implement Petitioner's Request**

##### **A. 10 CFR § 2.202(a) Allows the NRC to Modify, Suspend or Revoke a License or to Take Any Proper Actions to Fulfill Its Duty to Maintain the Public Health and Safety.**

It has been shown that the NRC needs to undertake the actions requested by the petitioners. Pursuant to 10 CFR § 2.202(a), the NRC has the authority to "institute a proceeding to modify, suspend or revoke a license or to take such actions as may be proper." This clearly gives the NRC the authority to order Entergy to comply with the requested actions.

The petitioners have requested that Entergy's license be modified to mandate upgrading the security measures at Indian Point. This modification of Entergy's license is permitted under the language of 10 CFR § 2.202(a). The petitioners also requested that if Entergy's license could not be modified to mandate the security measures, then the NRC must suspend Entergy's license, thereby forcing the shutdown of Units Two and Three. The wording of 10 CFR § 2.202(a) also allows suspension of a nuclear power plant's license. Finally, the petitioners also requested that the NRC force Entergy to transfer its spent fuel cooling pool storage system to a much safer dry cask storage system. The petitioners have shown that such an action would be proper in order for the NRC to maintain its commitment to the public health and safety. Thus, 10 CFR § 2.202(a) also grants the NRC the authority to mandate transfer of these spent fuel rods to dry storage as a necessary action.

For all these reasons, it is clear that 10 CFR § 2.202(a) grants the NRC the authority to undertake the actions the petitioners have requested.

##### **B. § 161(b) of the Atomic Energy Act empowers the NRC to "establish rules, regulations and orders" to "protect health or to minimize danger to life or property."**

The NRC has rightly said that it does not have the authority to establish a no-fly zone over the Nation's nuclear power plants. That authority only exists with the FAA. However, considering that the FAA and the NRC are both federal agencies that are coordinating with the Office of Homeland Security, it seems reasonable to assume that the NRC can coordinate with the FAA to establish no-fly zones over the Nation's nuclear power plants in order to secure them from terrorist attack.

No one can doubt that securing the airspace over nuclear power plants goes a long way towards protecting the public health and security and Entergy's own assets. The seeming impasse

here results from the FAA having control over the Nation's airspace, while the NRC must protect the public health and security in all matters involving nuclear energy.

However, Section 161 of the Atomic Energy Act allows the NRC to establish rules and orders to protect the public health. Certainly, the NRC can write up a proposed rule to the FAA that nuclear power plants should be protected by a no-fly zone. But it would be the FAA's order that would actually create the no-fly zone. Thus, the NRC would be "establishing" the no-fly zone rule, but it would be the FAA's authority that *implements* the no-fly zone. Under this scenario, there would be no conflict of authority, as the NRC would be fulfilling its mandate under Section 161 to protect the public health and safety while the FAA would maintain full control of American airspace.

## V. Conclusion

Since September 11, the NRC has been confronted with a new challenge: how to protect our nuclear power plants from terrorist attack and how to prevent such attacks from resulting in the release of radioactive contamination that could threaten countless lives. Despite the fact that this daunting challenge is unlike any the Nuclear Regulatory Commission has faced before, the stakes are so high that the NRC is compelled to act.


The actions the petitioners have outlined are needed and necessary to protect the public health and safety from the danger of radioactive contamination resulting from an attack on the Indian Point nuclear facility. The NRC must mandate that Entergy immediately act to improve the present state of security at Indian Point to protect it from terrorist attack whether via air, land or by water. Furthermore, if, for any reason, security at Indian Point cannot be made to protect the nuclear facility from terrorist attack, then the NRC must suspend Entergy's license and shut down the reactors at Indian Point known as Unit Two and Unit Three to make the facility less of an inviting target to terrorists. Lastly, the NRC must order Entergy to transfer spent fuel rods to a dry storage system from a cooling pool system, which is vulnerable to terrorist attack, to a dry cask system, which is decidedly more secure.

These actions are reasonable, within NRC's ability to achieve and mandated by NRC's responsibility to protect the public health, property and environment of New York. To uphold that responsibility, the NRC must undertake these actions.




Dated: August 9, 2002

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The Following Organizations and Individuals Join in the Forgoing Comments on NRC Director's Proposed Decision

Nuclear Control Institute  
STAR Foundation  
Waterkeeper Alliance  
Hudson River Sloop Clearwater

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

Eric Schneiderman, NY State Senate (D)  
Thomas Marahan, NY State Senate (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 Gennaro, 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)