

October 17, 2002

MEMORANDUM TO: Ledyard Marsh, Chair  
Petition Review Board

FROM: Patrick D. Milano */RA/*  
Petition Manager

SUBJECT: STAFF RESPONSE TO COMMENTS ON PROPOSED DIRECTOR'S  
DECISION

In a letter dated May 16, 2002, the U.S. Nuclear Regulatory Commission (NRC) solicited comments on its proposed Director's Decision from Riverkeeper, Inc., et. al. (Petitioners) regarding security and emergency preparedness at Indian Point Nuclear Generating Unit Nos. 2 and 3 (IP2 and 3). The Petitioner replied by letter dated August 9, 2002.

This memorandum documents the NRC staff's response to the Petitioners' comments.

Overall Petitioner Comment:

In general, the Petitioner states that the proposed Director's Decision fails to provide assurance of public health and safety in the face of plausible terrorist attack scenarios. Citing a report by the National Research Council (Council), "Making the Nation Safer," the Petitioner states that the report ranks the potential for an attack on a U.S. nuclear power plant as "high." Thus, the Petitioner concludes that the proposed Director's Decision proposes nothing to protect the facility from the attack in light of this high risk.

Staff Response:

The purpose of the report by the Council was to describe ways in which science and engineering can contribute to making the nation safer from terrorism. As such, it acknowledged the NRC's ongoing technical analyses to understand the threat, vulnerabilities, and mitigation strategies, and the need to complete the studies expeditiously. The Council also recommended that follow-on work to identify plant-specific vulnerabilities be conducted after the initial studies are complete. Further, the Council indicated that the report only outlined relative threat levels. It ranked the relative threat level to nuclear power plants as high (scale of low to very high) based on the large number of plants. As similarly stated in the proposed Director's Decision, the Council recommended that if important vulnerabilities are found in the studies, steps be taken to reduce the vulnerabilities.

Specific Petitioner Comments:

The Petitioner stated that it would "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."

Comment 1 “There is a gap between the present terrorist threat and the Indian Point nuclear power facility’s security measures.”

As the basis for this comment, the Petitioner states that the efforts to upgrade security at IP seem to be lagging more than the norm and that the facility remains vulnerable to attack. The Petitioner also states that the NRC acknowledged that a gap in the security of the IP facility exists in that the proposed Director’s Decision stated: “Any gap between the licensee capability and the assumed threat must be assumed by the government...”

Staff’s Response:

As stated in the proposed Director’s Decision, the NRC staff finds that actions for certain types of threats should properly involve governmental response because of the size of the assumed attacking force or the equipment that must be employed in defense. As a result, in developing policy, the NRC must differentiate between the licensee’s defensive obligation and that which must be undertaken by the government. The gap to which the proposed Director’s Decision refers deals with the sharing of response capability between that portion required of the licensee and the portion that must be borne through governmental response for an assumed threat.

On February 25, 2002, the NRC issued Orders to all operating commercial nuclear power plants to implement interim compensatory security measures for the current threat environment. The Orders formalized the security measures that NRC licensees had taken in response to advisories issued in the aftermath of the September 11th terrorist attacks and imposed additional security enhancements, which have emerged from our ongoing security review. In a letter dated September 3, 2002, the licensee formally notified the NRC that it had achieved full compliance with the requirements in the Order. The staff will verify that licensees are in compliance with the interim compensatory measures by conducting inspections at licensee sites in the near future. Thus, the NRC finds that the licensee is not lagging behind the norm in upgrading security at IP2 and 3. These actions in combination with its response to the recommendations in the security report from the New York State Office of Public Safety have shown the licensee’s commitment to enhancing security at IP2 and 3.

Sub-Comment A “NRC cannot rely on the lack of a specific credible threat 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.”

In this regard, the Petitioner states that the staff’s proposed Director’s Decision ignores the nature of terrorist attacks in that there will be no specific early threat identified by intelligence agencies. The Petitioner also believes that IP has no protection from an airborne terrorist attack that the National Research Council ranks as “high.” Contrary to the assertion in the proposed Director’s Decision, the Petitioner states that there have been specific credible threats on nuclear power plants.

Sub-Comment B      “Airspace around Indian Point is not secure.”

As the basis for this comment, the Petitioner states that there have been numerous incidents of violation of protected airspace in the country. Fox News reporter hires small plane to remain over IP for an extended period without interference. Despite tighter security and military patrols, protected airspace in the country was violated over 567 times in 7 months. There is difficulty with relying on the United States Air Force to secure restricted airspace. Current methods of securing airspace seem woefully insufficient.

Sub-Comment C      “Indian Point is not secure from breaches in airport security.”

In support of this comment, the Petitioner states that airport security does not protect from civilian-owned planes that use smaller airports. Petitioner believes that a small plane with explosives could breach the containment or create an event by damage to the control room or spent fuel storage building. In addition, the Petitioner feels that the NRC’s reliance on airport security is questionable because of reported failures by screeners.

Staff’s Response:

After September 11, the NRC worked with other Federal agencies in response to the potential for a deliberate aircraft attack. As a result of these efforts, the Federal Aviation Administration (FAA) and the Department of Defense (DoD) have acted on various specific occasions to protect the airspace above nuclear power plants. Furthermore, the Aviation and Transportation Security Act of 2001 provides additional protection against air attacks on all industrial and infrastructure facilities, both nuclear and non-nuclear. The NRC believes that the nation’s efforts to provide protection against terrorist attacks by air should be directed toward enhancing security at airports and within airplanes instead of defending all potential targets. Nevertheless, licensees have implemented certain actions as a result of the NRC advisories and Orders to mitigate the effects of a September 11-type aircraft attack and we have initiated a detailed engineering study to determine plant vulnerability to aircraft attack as well as the effectiveness of mitigation management strategies. Variables considered in the analyses include aircraft size and speed, as well as the amount of fuel on board the airplane. NRC is working with the national laboratories to perform this in-depth analysis that will provide valuable information upon completion. Final results from that analysis are estimated to be completed by fall 2003. If warranted by the analyses, the NRC will consider changes to the requirements for affected licensees to ensure the protection of the public health and safety. However, the study will not be made publicly available since the specific assumptions, methods, and conclusions are classified.

As previously stated in the staff’s proposed Director’s Decision, in view of the intelligence information at hand, enhancements to site security, and steps taken to improve aviation security, the NRC has concluded that it is appropriate to allow nuclear power plants to continue to operate.

Sub-Comment D      “Indian Point’s spent fuel storage facility and cooling water intakes are also vulnerable to attack.”

The Petitioner states that the spent fuel storage facility is particularly vulnerable to attack since the roofs of the buildings are constructed of insubstantial sheet metal and the walls are rather thin. Thus, the Petitioner feels that the buildings are not sturdy enough to stand up to a determined terrorist attack. In addition, the Petitioner states that recent information shows that cooling intakes could be vulnerable to a scuba-based attack. It also quotes a warning issued by the Federal Bureau of Investigations (FBI) on May 24, 2002, wherein the FBI has determined that terrorist elements have sought to develop offensive scuba diver capability. Thus, the Petitioner questions whether present security measures could defend against an attack involving scuba divers detonating explosives with the intent to cripple the cooling water intake.

Staff’s Response:

The NRC and its licensees have taken a number of steps since September 11 to increase security at NRC-licensed facilities, including safeguards advisories. At IP, the Entergy security force was augmented by the New York State Police and the National Guard (including Hudson River patrols) and local law enforcement personnel.

Since the spent fuel storage facilities are located within the protected area of the plant, the facilities are afforded the same level of physical protection as other vital equipment and facilities. The NRC staff believes that spent fuel can be safely stored at the IP reactor site in the current system of spent fuel pools (SFPs). Although the spent fuel storage buildings at IP are not as hardened as the reactor containment structures, the robust design and small size of the pools minimize the likelihood that a terrorist attack would cause damage of a magnitude sufficient to result in an offsite release of radioactive material.

As stated in the proposed Director’s Decision, the February 25, 2002, Orders directed licensees to evaluate and address potential vulnerabilities to maintain or restore core cooling capabilities, and containment and SFP integrity, and to develop specific guidance and strategies to respond to an event resulting in damage to large areas of the plant due to explosions or fire. These security strategies are intended to help identify and utilize any redundant or remaining equipment and capabilities to maintain or restore core, containment, and SFP cooling, including both onsite and offsite resources. The Orders also directed licensees to assess the vulnerability of the cooling water intake structures from water-borne attack and take certain actions, as appropriate. These requirements will remain in effect until the NRC notifies licensees that the threat environment has significantly changed or until the NRC determines, as a result of the ongoing comprehensive reevaluation of current safeguards and security programs, that other changes are needed.

Although sufficient intelligence information is not available to reasonably quantify the likelihood of a radiological sabotage event, the NRC assesses the probability of a terrorist attack against any licensed facility in a qualitative sense. The NRC has qualitatively assessed physical security risks by considering the current threat

environment, plant-specific designs and target sets, vulnerabilities, program attributes, prescribed design basis threat (DBT) characteristics, and consequences. In consultation with other Federal agencies, the NRC uses a combination of actual security events and intelligence information to develop a threat profile. NRC licensees are then required to establish and maintain a physical security program effective at preventing radiological sabotage attempted by this threat.

Sub-Comment E      “Design Basis Threat does not adequately address present terrorist threats to IP.”

The Petitioner states that no licensee considered the possibility of deliberate aircraft impact. In this regard, IP was not designed for potential impact from even a small plane. Referring to prior NRC responses to U.S. Representative Markey, the Petitioner states that the NRC acknowledges that claims that plants are able to withstand terrorist attack due to the strength of containment are irrelevant to the risk of damage to vital infrastructure.

Staff's Response:

Since September 11, 2001, the NRC has initiated a review of the basic threat assumptions underlying the current civilian nuclear facility security programs. An important aspect of this review is to determine the nature of the threat faced by licensees and to revise, as appropriate, the methods and criteria by which licensee security programs are evaluated. This includes re-consideration of the DBT which is a reasonable characterization of an adversary force against which certain NRC licensees must design their physical protection systems and response strategies.

The NRC continually assesses the threat environment in close coordination with the national intelligence and law enforcement community. In the past, the NRC has revised its requirements to meet the evolving threat. Such revision requires consideration of many issues, including a resolution of government/private responsibilities. The Office of Homeland Security (OHS) has launched an effort to develop a National Physical Infrastructure Protection Plan, in which the NRC is involved. The NRC expects this plan to provide a means for considering and resolving such matters. In the meantime, our advisories and Orders are intended to provide an appropriate level of security until a revised regulatory system is put in place.

The NRC has performed a preliminary vulnerability assessment of power reactors against air attack and is evaluating the results. The vulnerability assessment is considering the implications of attacks to other onsite structures in addition to the containment buildings. The NRC continues to review the threat environment in coordination with other Federal agencies. The NRC continues to work with the OHS, FBI, DoD and other agencies in the development of interagency response procedures and enhancements which will assist in cooperation and coordination efforts. Consolidation of the NRC's safeguards and incident response functions in the new Office of Nuclear Security and Incident Response will help in this regard.

Comment 2 NRC's proposed actions are insufficient to close the security gap now present at Indian Point.

Sub-Comment A "[The Federal Aviation Administration] FAA Notice to Airmen (NOTAM) is insufficient to protect airspace around IP."

The Petitioner states that it is not credible for the NRC to say that the NOTAM is a security measure sufficient to protect nuclear plants from aerial attack in light of hundreds of airspace violations. Also, the Petitioner states that the NRC's requirement for licensees to report fly-overs that are close or of a suspicious nature is difficult and time consuming and would not prevent the aircraft from impacting the plant.

Sub-Comment B "Reliance on the US intelligence agencies will not suffice to ensure security at Indian Point."

The Petitioner states that an over-reliance on intelligence agencies to prevent terrorist attacks is questionable. The Petitioner bases this statement on the intelligence failures before events of September 11, 2001. The Petitioner states that more remains to be done in reorganizing the coordination efforts of the intelligence services. In addition, the FBI is designed to investigate crimes after they happen.

Sub-Comment C "Reliance on airport security is not enough to prevent an aerial attack on Indian Point."

The Petitioner states airport security is wanting, even in the wake of improvements. In addition, the Petitioner feels that (1) there is significantly less security at cargo handling and private plane sections, (2) airport workers have easy access to restricted areas, (3) there is evidence of illegal immigrants being employed at airports, and (4) haphazard security procedures may only invite terrorists to try their luck.

Staff's Response:

The NRC is currently reviewing measures to bolster defenses and to establish new antiterrorism strategies in a thorough and systematic manner. The NRC is taking a realistic and prudent approach toward assessing the magnitude of the potential threat and the strength of licensee defenses.

Following September 11, 2001, the NRC initiated a reexamination of the basic assumptions underlying the current safeguards and security requirements for civilian nuclear facilities. This is the first step in the process of determining what further actions are necessary in light of the current threat environment. Based on the results of this review, the NRC staff will determine whether modifications to nuclear facility physical security plans and plant designs are warranted.

In February 2002, NRC ordered nuclear power plant licensees to develop specific plans to respond to an event that results in damage to large areas of their plants from explosions or fire. In addition, mitigative measures required by the Orders include assuring the presence of Emergency Plan staffing and associated resources needed to

respond to such an event. The NRC is also continuing a major engineering evaluation relating to the vulnerabilities and potential effects of a large commercial aircraft striking a nuclear facility. This effort includes consideration of additional mitigative and protective measures. The NRC continues to share the results of our ongoing engineering evaluations with the FAA, Transportation Safety Administration, and other agencies and are committed to working with them to strengthen aviation security as it contributes to ensuring nuclear security.

At this time, however, the review is ongoing. In the interim, and in some instances based on evaluations performed for the comprehensive review, the NRC has taken measures to enhance security at nuclear power plants. The NRC continues to believe that the nation's efforts to provide protection against terrorist attacks by air should be directed toward enhancing security at airports and within airplanes, and not toward seeking to defend all targets of terrorism. Nevertheless, we are continuing to assess whether additional measures can be taken to further strengthen the current capability of nuclear power plants, as well as other NRC-regulated activities, against terrorism.

The NRC has consulted with the DoD, OHS, and the FAA, and believes that reliance upon anti-aircraft weaponry at nuclear power plants is undesirable and, as a result, has not advocated it. Any such application of anti-aircraft weapons would present significant command and control challenges. The operator of the anti-aircraft weapon would need continuous contact with someone who could authorize the downing of a civilian commercial aircraft, with all of the attendant implications, and would need to be able to carry out that act in seconds. It may be difficult in this context to distinguish an aircraft that had drifted off course from an aircraft on an attack mission. And, of course, anti-aircraft munitions could impose collateral damage on the surrounding community. For these reasons, the NRC believes the best general approach at the present time to deal with threats from aircraft is through strengthening airport and airline security measures. Such measures, of course, serve to protect all infrastructure, not just nuclear plants.

Sub-Comment D Without public oversight, recent "Secret NRC Orders" may not ensure security at IP is actually enhanced.

The Petitioner believes that without public oversight, the licensee will be given a free pass to pay only minor lip service to making IP more secure against terrorist attack. Also, the Petitioner claims that the NRC and licensee will use national security to obscure a failure to implement sufficient security upgrades. It is in the interest of all concerned parties to allow public notice and comment of any new security measures to be made at IP.

Staff Response:

As stated in the proposed Director's Decision, the NRC is striving to strike an appropriate balance between openness and security. In general, if the information could give an advantage to a terrorist or includes information relating to the protection of the facility under 10 CFR 73.21, the information will be redacted from the public record or withheld. The NRC believes that it is not in the best interest of the public to discuss

perceived vulnerabilities and current or planned security measures in the public domain and could endanger the public health and safety.

The Commission directed the staff to review the agency's organizational structure, staffing, and training in the security and safeguards area. The Commission recently approved the establishment of a new Office of Nuclear Security and Incident Response in order to consolidate NRC security, safeguards, and incident response capabilities and resources. The primary responsibilities of this new office will include safeguards policy development and threat assessment functions, current incident response operations functions, and oversight for the NRC's comprehensive safeguards and security program re-evaluation. The NRC believes that significant efficiency and effectiveness can be gained by centralizing these functions and responsibilities into a single chain of command. The NRC also expects that this reorganization will enhance communications and coordination both within the agency and with external entities.

Comment 3 "Petitioner's requested action will suffice to close IP's security gap and ensure the public's health and safety. [Specifically, the Petitioners request:]"

- A. Temporarily shutting down IP as the facility undergoes a full review of security and vulnerabilities will provide greater security and safety.
- B. Requiring Entergy to reveal information regarding present and easily attainable security measures will help determine how to enhance security.
- C. Modifying the license to mandate measures to defend IP airspace will help secure from aerial attack.
- D. Transferring spent fuel to a dry-cask system will greatly improve public health and safety. The Petitioner also stated that the NRC's claim that the spent fuel storage is "robust" is disingenuous.

Staff's Response:

As previously stated, the NRC staff concluded that, in view of the intelligence information at hand, enhancements to site security, and steps taken to improve aviation security, nuclear power plants should continue to be allowed to operate. The NRC staff's determination considered the storage of spent fuel since the spent fuel pools are located within the protected area of the plant and are afforded the same physical protection as the nuclear power plant.

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The staff believes that the characterization of the SFPs as being "robust" is accurate in that SFPs are designed to withstand a variety of design-basis events, including earthquakes,



tornadoes, and loss of forced cooling, while keeping the stored spent fuel safe. The pools are substantial structures constructed of reinforced concrete. While not previously analyzed to survive the impact of a large commercial airline, the NRC staff believes that the design will be an asset to plant operators in the unlikely event an aircraft is intentionally flown into the reactor plant.

Sub-Comment E      “If NRC will not order the requested protective actions, NRC should mandate “Immediate and Permanent Shutdown” to protect public health and security (sic).”

Staff’s Response:

The many layers of protection offered by robust plant-design features, sophisticated surveillance equipment, professional security forces, and NRC regulatory oversight provide an effective deterrence against potential terrorist activities that could target equipment vital to nuclear safety. The NRC and its licensees have dealt with the issue of protection of licensed facilities against sabotage or attack for a number of years. NRC regulations have ensured that nuclear power plants are among the most hardened and secure industrial facilities in our nation. NRC regulations have for many years required security programs that can protect against a determined violent external assault by a well-trained and well-armed group working with a knowledgeable insider. Providing this protection involves many barriers -- a substantial security system and associated intrusion detection, surveillance, and alarm systems around the plant site; a substantial armed guard force onsite at all times; background checks, extensive searches, and strict controls of personnel entering the plant; external vehicle barriers; and close examination of all materials and vehicles entering the plant.

The NRC continues to work with other Federal agencies and is monitoring relevant information it receives on security matters at nuclear facilities. The NRC is prepared to make immediate adjustments as necessary to ensure adequate protection of the public.

Thus, the NRC continues to conclude that the operation of IP2 and 3 does not pose an undue risk to public health and safety.

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Distribution: See attached sheet

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Dated: October 17, 2002

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