November 1, 2002

Mr. Michael D. Kohn
National Whistleblower Center
3238 P Street, NW.
Washington, DC 20007

Dear Mr. Kohn:

Your Petition dated October 24, 2001, as amended on January 27, 2002, submitted on behalf of the National Whistleblower Center, has been reviewed by the Nuclear Regulatory Commission (NRC) staff pursuant to Section 2.206 of Title 10 of the *Code of Federal Regulations* (10 CFR 2.206). The NRC staff provided you a copy of the proposed Director's Decision for comment by letter dated May 16, 2002. You responded with comments by letter dated August 10, 2002. The comments and staff response to them are included as enclosures 2 and 3 to this letter.

Your petition raised concerns about the ability of nuclear power plants to withstand the impact of a commercial airliner, the ability of spent fuel pool design and security measures to prevent a radiological release in the event of terrorist activity, background screening requirements at nuclear power plants, and public participation in the license renewal process as it relates to plant security. In your petition, you requested certain compensatory actions and permanent changes be taken by the NRC to address your concerns. You stated as your basis for your requested actions that commercial nuclear power plants cannot withstand the impact of a large commercial airliner and that the current design and security measures at the spent fuel pools are incapable of protecting against a potential terrorist attack. You also stated that the current background screening requirements for "temporary" security clearances and the process for long-term security clearances do not adequately protect the public. Regarding the license renewal process, you stated that the NRC staff ended the public's ability to effectively challenge the NRC's decision not to require nuclear power plants to be able to withstand airborne assaults.

Based on our review, the staff has, in effect, partially granted your requests to the extent that your concerns have been addressed by actions already taken by the NRC and other Federal agencies since September 11, 2001. These actions include:

- Orders issued by the Commission to all operating power reactor licensees on February 25, 2002, to require that certain interim compensatory measures for security be taken beyond that called for by current regulations.

- The comprehensive reevaluation of the NRC's security and safeguards programs.

- The prompt response by Congress to strengthen aviation security under the Aviation and Transportation Security Act of 2001.

- The increased efforts by Federal agencies to identify and prevent terrorist attacks before they occur.

- The measures required by existing personnel access authorization and control programs, and the additional measures implemented or being considered in this area.

- The research and engineering efforts underway to evaluate vulnerabilities and potential effects of a large commercial aircraft impacting a nuclear power plant. The results of this research will be applied, as appropriate, to strengthening the requirements for licensees.

The remainder of your requests are denied for the reasons provided in the enclosed Director's Decision. Note that certain aspects cannot be made public due to their security nature.

A copy of this Decision will be filed with the Secretary of the Commission so that the Commission may review it in accordance with 10 CFR 2.206(c). As provided for by this regulation, the Decision will constitute the final action of the Commission 25 days after the date of the decision unless the Commission, on its own motion, institutes a review of the Decision within that time.

The documents cited in the enclosed Decision are available in the Agencywide Documents Access and Management System (ADAMS) for inspection at the Commission's Public Document Room located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland, and are accessible through the ADAMS Public Library component on the NRC's Web site, http://www.nrc.gov/reading-rm.html (the Public Electronic Reading Room).

The incoming petition was originally withheld from the public document room due to the potential for sensitive, security-related information to be included. When we received your letter, the NRC was in the process of determining the criteria for releasing security-related information in light of the events of September 11, 2001. Your incoming letter, and subsequent correspondence, were later made publicly available.

I have also enclosed a copy of the notice of "Issuance of Director's Decision Under 10 CFR 2.206" that has been filed with the Office of the Federal Register for publication. Please feel free to contact Ms. Donna Skay at 301-415-1322 (dms6@nrc.gov) to discuss any questions related to this petition. I thank you for your time and interest in nuclear power plant security.

Sincerely,

/RA/

Jon R. Johnson, Deputy Director
Office of Nuclear Reactor Regulation

Enclosures:
1. Director's Decision DD-02-04
2. Petitioner's Comments on Proposed Director's Decision
3. NRC staff response to Petitioner's comments
4. *Federal Register* Notice

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
Samuel J. Collins, Director

In the Matter of	)
	)
ALL NUCLEAR POWER REACTOR	)
LICENSEES	)
	)
	)

DIRECTOR'S DECISION UNDER 10 CFR 2.206

I. Introduction

By letter dated October 24, 2001, Mr. Michael D. Kohn, on behalf of the National Whistleblower Center (Petitioner), submitted a Petition pursuant to Section 2.206 of Title 10 of the *Code of Federal Regulations* (10 CFR 2.206), for corrective action to protect the public against the possibility of terrorists seizing control of a large commercial airliner and crashing it into a nuclear power plant in the United States. In addition, the Petitioner requested that the U.S. Nuclear Regulatory Commission (NRC or the Commission) take compensatory measures, as set forth in the Petition, to protect the public and environment from the catastrophic impacts of any type of terrorist attack on a nuclear power plant or a spent fuel pool. The Petitioner also requested that the NRC ensure that these compensatory measures are immediately implemented, and that the NRC issue permanent rules, as discussed in the Petition.

Additionally, by letter dated January 16, 2002, Mr. Nicholas Reynolds of Winston & Strawn submitted comments on the Petition on behalf of several NRC licensees. The NRC considered the licensees' comments in preparing this Director's Decision. By letter dated

January 27, 2002, Mr. Michael D. Kohn submitted an amended Petition. The amended Petition included the names of six additional Petitioners who wished to be added to the Petition.

As a basis for the request described above, the Petitioner stated that:

- No commercial nuclear power plant located in the United States can withstand the impact of a large commercial airliner.
- The NRC intentionally misled the public about its failure to adequately consider risks associated with an air assault on a nuclear facility.
- The NRC knew or should have known that the current design and security measures at the spent fuel pools [SFPs] located at each nuclear power plant are incapable of protecting the population from the catastrophic release of radiation from a potential terrorist attack and immediate and long-term compensatory measures are needed to protect the United States and its citizens.
- The NRC [sic] radioactive material contained in the spent fuel pools are [sic] extremely vulnerable to terrorist attack within six months of a refueling outage. Immediate and long-term compensatory measures are needed to protect the United States and its citizens from an attack on a spent fuel pool within this six month window.
- The NRC must work directly with other security offices in approving compensatory security measures and in approving utility security plans and must re-evaluate its 1979 EIS [Environmental Impact Statement] and 1998 Final Rule regarding SFPs.

- The current background screening requirements which permit "temporary" clearances at nuclear plants do not adequately protect the public.
- The current background screening requirements for long-term clearances at nuclear plants do not adequately protect the public.
- The NRC ended the public's ability to effectively challenge the NRC's decision not to require nuclear power plants to be able to withstand airborne assaults by changing its rules allowing nuclear plants to obtain new 40 year licenses without permitting citizens to challenge "generic" concerns, including risks from terrorist attack.

Based on the information provided by the Petitioner, the Office of Nuclear Reactor Regulation's Petition Review Board (PRB) determined that the Petitioner's request met the criteria for review under 10 CFR 2.206. This determination was communicated to the Petitioner in a letter dated December 20, 2001. In addition, the NRC staff informed the Petitioner that because the October 24, 2001, letter raised sensitive security issues, the Commission was deferring application of certain public aspects of the process described in Management Directive (MD) 8.11, "Review Process for 10 CFR 2.206 Petitions," pending further developments related to the NRC's security review. Accordingly, the NRC staff did not offer the Petitioner the opportunity to provide, in a public forum, additional information to support the October 24, 2001, letter before the NRC's PRB. By letter dated February 20, 2002, the NRC informed the Petitioner that on January 16, 2002, Mr. Nicholas Reynolds of Winston & Strawn submitted comments on the Petition on behalf of several NRC licensees and that the NRC would consider these comments in preparing the Director's Decision.

By letter dated May 16, 2002, the NRC staff sent the proposed Director's Decision to the Petitioner. The Petitioner's comments and the staff's response are available for electronic viewing in the Agencywide Documents Access and Management System (ADAMS) at the Commission's Public Document Room located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland, and are accessible through the ADAMS Public Library on the NRC's Web site, http://www.nrc.gov/reading-rm.html (the Public Electronic Reading Room) at ADAMS Accession Nos. ML022530416 and ML022470355, respectively.

II. Discussion

Physical Protection of Nuclear Power Plants

The Petitioner raised a number of issues associated with protecting U.S. nuclear power plants from terrorism. However, long before the tragic events of September 11, 2001, the Commission had recognized the need for strict safeguards and security measures at these facilities. When Congress first authorized the civilian use of atomic power through the Atomic Energy Act of 1954 (the Act), it recognized that public health and safety must be protected. The Act, as amended, gives the NRC the responsibility and authority to determine the requirements, including rules governing security, that are necessary to ensure that public health and safety are protected when commercial nuclear power plant licenses are issued.

The regulations for protecting nuclear power plants are provided in 10 CFR Part 73, "Physical Protection of Plants and Materials." These regulations represent an important cornerstone of the NRC's regulatory oversight responsibilities and include detailed and specific requirements that are designed to protect nuclear power plants against acts of radiological sabotage, prevent the theft of special nuclear material, and protect safeguards and classified information against unauthorized release by:

- Permitting only authorized activities and conditions within established protected areas, material access areas, and vital areas by using controls and procedures, defined boundaries, detection, communication and surveillance subsystems, and by establishing schedules of authorized operations;
- Preventing unauthorized access of persons, vehicles, and materials into material access areas and vital areas by using detection and barrier systems;
- Providing for authorized access, and assuring detection of and response to unauthorized penetrations of the protected area;
- Providing access authorization and fitness-for-duty requirements for those persons with unescorted access.
- Permitting only authorized control and movement of special nuclear material; and
- Providing response capabilities to assure that NRC requirements are achieved.

The performance capabilities for nuclear power plant physical protection systems are further defined in 10 CFR 73.55, “Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage,” which requires licensees to:

(1) Maintain a well-equipped and highly trained security organization.

(2) Install physical barriers to protect vital equipment and material access areas.

(3) Install detection, surveillance, and alarm systems with the capability to sense unauthorized penetration of the isolation zone and to permit response action.

(4) Have access authorization programs and procedures.

(5) Ensure that all guards and armed response individuals can communicate with a continuously manned alarm station.

(6) Establish an effective testing and maintenance program to verify that all physical barriers, and detection and alarm systems meet NRC requirements.

Security Organization

All operating nuclear power plant licensees are required to establish and maintain a site security organization. Such site security organizations include the designated managers, guard force, and personnel for checking worker backgrounds and issuing badging, as well as detailed access control and response procedures. To become a member of the security organization at a nuclear power plant, an individual must meet several stringent requirements. Specifically, prospective applicants must: (1) undergo a background investigation, including a criminal history check through the Federal Bureau of Investigation (FBI); (2) disclose past employment, education, credit history, and military service; (3) undergo a psychological evaluation; (4) be screened for drug and alcohol use; and (5) satisfactorily perform qualification and requalification training. In fact, 10 CFR 73.55(b)(4) expressly states that "licensee[s] may not permit an individual to act as a guard, watchman, armed response person, or other member of the security organization unless the individual has been trained, equipped, and qualified to perform each assigned security job duty" in accordance with NRC-established criteria for security personnel. Furthermore, each licensee shall establish, maintain, and follow an NRC-approved training and qualifications plan outlining the processes by which guards, watchmen, armed response persons, and other members of the security organization will be selected, trained, equipped, tested, and qualified to ensure that these individuals meet NRC requirements. These qualifications include specific requirements to demonstrate competence in the use of assigned weapons. In addition, guards, watchmen, armed response persons, and other members of the security organization are subject to the NRC's medical examination, physical fitness, and fitness-for-duty requirements. These security organizational requirements contribute to implementing the defense-in-depth philosophy for safeguarding vital plant areas,

and are designed to help provide an effective deterrence against potential terrorist activities directed at nuclear power plants.

Protection of Vital Equipment

Paragraph (a)(1) of 10 CFR 73.1 defines the design-basis threat from which vital areas must be protected. The regulation requires licensees to assume that potential terrorists have the following characteristics:

- are dedicated and well-trained (including military training and skills)
- have inside assistance, which may include a knowledgeable individual who attempts to participate in a passive role (e.g., provide information), an active role (e.g., facilitate entrance and exit, disable alarms and communications, participate in violent attack), or both, possess suitable weapons, up to and including hand-held automatic weapons, equipped with silencers and having effective long-range accuracy
- possess hand-carried equipment, including incapacitating agents and explosives for use as tools of entry or for otherwise destroying reactor, facility, transporter, or container integrity or features of the safeguards system
- have a four-wheel drive land vehicle available for transporting personnel and their hand-carried equipment to the proximity of vital areas

In brief, Congress understood the inherent need for strict security measures at commercial nuclear power plants, and NRC regulations have ensured that these are among the most hardened and secure industrial facilities in the U.S. The many layers of protection offered by robust plant design features, sophisticated surveillance equipment, a professional security force, and regulatory oversight are an effective deterrent against potential terrorist activities targeting equipment vital to nuclear safety.

NRC Response to the September 11, 2001, Terrorist Attacks

When the events of September 11, 2001, unfolded, U.S. nuclear power plants already possessed a considerable capability to prevent and respond to many types of terrorist acts that could be directed at them. Consequently, the NRC determined that certain actions, such as ordering the immediate closure of all nuclear power plants, were not necessary to provide adequate protection of public health and safety. However, the NRC did take other immediate actions and advised all nuclear power plants to go to the highest level of security. The NRC also issued more than 30 threat advisories to address specific concerns or vulnerabilities in the aftermath of September 11, 2001. In addition, NRC security specialists performed numerous onsite physical security vulnerability assessments at licensed facilities to evaluate the effectiveness of the enhanced security measures that were put into place. These assessments demonstrated that the industry responded promptly and appropriately to the NRC threat advisories. To this day, all nuclear power plant facilities remain at a heightened security level.

The events of September 11, 2001, were unprecedented, and since that time, the NRC has taken appropriate steps to protect public health and safety. For example, the NRC quickly recognized the need to reexamine basic assumptions underlying the current civilian nuclear facility security and safeguards programs. Chairman Richard A. Meserve, with the full support of the rest of the Commission, directed the staff to undertake a comprehensive reevaluation of the NRC's security and safeguards programs. This is an ongoing review and as results become available, they will be evaluated and, if appropriate, incorporated into NRC's regulatory processes. The comprehensive review takes advantage of insights gained by the NRC in consultation with the Office of Homeland Security, FBI, Department of Defense (DOD), Department of Transportation (DOT), Department of Energy (DOE), and others. This cooperation further allows the NRC to keep abreast of the current threat environment, and

communicate its actions to other Federal agencies to ensure an appropriate response to security concerns throughout the nation's entire critical energy infrastructure.

In light of the current threat environment, the Commission concluded that specific security measures, including those outlined in threat advisories and voluntarily implemented by nuclear power plant licensees, should be embodied in an Order consistent with the NRC's established regulatory framework. On February 25, 2002, the NRC issued Orders to all operating power reactor licensees to require certain interim compensatory measures (ICMs) for security be taken beyond that called for by current regulations. These requirements will remain in effect pending notification from the Commission that a significant change in the threat environment has occurred, or until the Commission determines that other changes are needed following the comprehensive review of current safeguards and security programs. The Orders were effective immediately upon issuance. For the most part, the Orders formalized a series of steps that nuclear power plant licensees had been advised to take by the NRC in the aftermath of the terrorist attacks on September 11, 2001; however, the Commission included certain additional security enhancements in the Orders. Details of certain new security requirements cannot be made public, but some of the specific measures implemented by the licensees in response to the advisories and ICMs included increased patrols, augmented security forces and capabilities, additional security posts, installation of additional physical barriers, vehicle checks at greater stand-off distances, enhanced coordination with law enforcement and military authorities, and more restrictive site access controls for all personnel. The Orders also required that licensees provide a schedule for their implementation of the ICMs, and that all ICMs be implemented by August 31, 2002. Based on the NRC staff's review of the responses to the reporting requirements of the Order, the staff concludes that licensees have taken adequate measures to comply with the requirements of the Order by the required

date of August 31, 2002. The staff is verifying that licensees are in compliance with the ICMs by conducting independent inspections at licensee sites.

If the NRC identifies a significant vulnerability during the ongoing reevaluation, the staff will determine physical protection, material control, or other appropriate requirements. The NRC will continue to assist the Office of Homeland Security and other Federal agencies to evaluate threats beyond the feasibility and capability of NRC licensees.

Evaluation of Specific Concerns

The Petitioner raised concerns about the ability of nuclear power plants to withstand the impact of a commercial airliner, the design and security measures of spent fuel pools, background screening requirements, and public participation in the license renewal process.

1. Airborne Attacks

Petitioner's Concerns

The Petitioner stated that no commercial nuclear power plant located in the United States can withstand the impact of a large commercial airliner. The Petitioner also stated that the NRC intentionally misled the public about its failure to adequately consider risks associated with an air assault on a nuclear facility.

NRC Response

In addition to the steps taken by the NRC to strengthen nuclear power plant security through the February 25, 2002, Orders, previously discussed, other actions have been taken to address aviation security at nuclear power plants. For example, the Commission believes that the prompt response by Congress to strengthen aviation security under the Aviation and

Transportation Security Act of 2001, provides improved protection against air attacks on all industrial facilities, both nuclear and non-nuclear. The Commission views that the nation's efforts associated with protecting against terrorist attacks by air should be directed toward enhancing security at airports and on airplanes. The NRC supports the steps taken by the Federal Aviation Administration (FAA) to improve aircraft security, including enhanced passenger and baggage screening, strengthening of cockpit doors, and the Air Marshal program. The NRC has been in regular communication with other Federal agencies, specifically the FAA and DOD, which have acted more than once to protect airspace above nuclear power plants. In addition, the U.S. intelligence community and Federal law enforcement have increased efforts to identify potential terrorists and prevent potential attacks before they occur. Shortly after the September 11, 2001, attacks, representatives of the FAA and DOD determined that a Notice To Airmen (NOTAM), issued by the FAA, was the appropriate vehicle to protect the air space above sensitive sites. This NOTAM strongly urges pilots "to not circle or loiter over the following sites: Nuclear/Electrical power plants, power distribution stations, dams, reservoirs, refineries, or military installations, unless otherwise authorized by air traffic control or as required to land or depart at towered/non-towered airports." This notice is still in effect. Should additional restrictions be deemed appropriate as a result of changing or more specific threats, our communication with the other Federal agencies will allow prompt coordination.

The Petitioner requested that no-fly zones be immediately established at every nuclear power plant. The NRC has worked with the FAA to establish temporary no-fly zones at specific sites when circumstances warranted and considers this a significant enhancement to the protection of air space around nuclear power plants. However, the NRC recognizes the limitations inherent in relying on no-fly zones, unless authority is provided to enforce them, and does not recommend a general application of this approach to all nuclear power plants.

There have been no specific credible threats against any NRC-licensed facility since September 11, 2001. The NRC continues to work with other Federal agencies to assess intelligence information as it relates to potential threats to nuclear facilities. As we go forward, and in the interest of national security, steps have been taken to strengthen aviation security through the Aviation and Transportation Security Act of 2001. 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.

The staff also acknowledges that nuclear plants were not specifically designed to withstand the direct impact of a large commercial airliner fully loaded with fuel. Prior to September 11, 2001, such a scenario was not considered to be a credible threat. However, the NRC recognizes that nuclear power plant design could contribute to the survivability of the plant in the event of an aircraft impact. The NRC requires that these facilities be designed with a defense-in-depth philosophy to withstand events such as tornadoes (and missiles generated by tornadoes), hurricanes, fires, floods, and earthquakes. This has resulted in nuclear power plant designs that inherently afford a measure of protection against deliberate aircraft impacts because the defense-in-depth philosophy requires plants to have redundant and separated systems in order to ensure safety. Ultimately, the capability of a plant to successfully cope with an aircraft crash will depend upon a number of factors, including the plant's specific design features, the design and flight characteristics of the aircraft, the point of impact, the ability of the licensees' staff to utilize remaining backup systems, and the response of onsite and offsite resources.

In its Orders issued to all operating nuclear power plants on February 25, 2002, the Commission also directed licensees 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 strategies are intended to assist in identifying and utilizing any remaining equipment and capabilities to maintain or restore reactor core, containment and spent fuel cooling, including both onsite and offsite resources.

The staff further notes that the NRC, in conjunction with the DOE laboratories, is continuing a major research and engineering effort to evaluate the vulnerabilities and potential effects of a large commercial aircraft impacting a nuclear power plant. This effort also includes a careful consideration of additional preventive or mitigative measures that may be necessary to further protect public health and safety in the event of a deliberate aircraft crash into a nuclear power plant or spent fuel storage facility. The final results from that analysis are not yet available. If the ongoing research and security review recommends any other security enhancements, the NRC will take appropriate action.

Regarding the assertions that the NRC intentionally misled the public about the design basis of the nation's nuclear plants and the NRC's failure to adequately consider risks associated with an air assault on a nuclear facility, your concerns have been referred to the NRC's Office of the Inspector General.

2. Spent Fuel Pool Concerns

Petitioner's Concerns

The Petitioner stated that the NRC knew or should have known that the current design of and security measures for the SFPs located at nuclear power plants are incapable of protecting the population from the catastrophic release of radiation from a potential terrorist attack and immediate and long-term compensatory measures are needed to protect the United States and its citizens. The Petitioner also stated that the radioactive material contained in the SFPs is extremely vulnerable to terrorist attack within 6 months of a refueling outage, and that

immediate and long-term compensatory measures are needed to protect the United States and its citizens from an attack on a SFP within this 6-month window.

NRC 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 SFPs, since the pools are located within the protected area and are afforded protection under the same physical security protection program as the nuclear power plant.

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 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.

The NRC acknowledges that nuclear power plants, including the SFP, were not specifically designed to withstand the impact of a large commercial airplane fully loaded with fuel. Nonetheless, the NRC recognizes that the design of the spent fuel storage system could contribute to mitigating the effects of a radiological sabotage event. Although the spent fuel storage buildings are not as hardened as the reactor containment structures, certain SFP design features could be assets as operators address a radiological sabotage event.

First, SFPs are small in size relative to the rest of the plant, making them difficult to target. In addition, the NRC's requirements that nuclear power plants be designed to withstand a variety of design-basis events such as tornadoes (and missiles generated by tornadoes), hurricanes, fires, floods, and earthquakes have resulted in nuclear plant designs that inherently afford a measure of protection against deliberate aircraft impacts and other acts of radiological sabotage. The SFPs are massive structures with thick walls constructed of reinforced concrete. Furthermore, the defense-in-depth design philosophy used at nuclear power plants means that critical systems have redundant and separated systems. That is, active components, such as pumps, have backup systems that are physically and electrically separated from each other as part of the basic design philosophy.

However, in the event of a serious accident or terrorist attack at a nuclear power plant, licensees would implement emergency preparedness program plans. These plans are routinely evaluated in biennial exercises. This provides a further capability to respond to various types of sabotage events involving the SFP.

The staff recognizes that the continued evaluation of the current threat environment may identify additional requirements beyond those provided by existing regulations and the ICMs specified in the February 25, 2002, Orders. The comprehensive review of the NRC's safeguards and physical security programs initiated by Chairman Meserve following the September 11, 2001, terrorist attacks includes an evaluation of the potential consequences of terrorist attacks using various explosives or heat-producing devices on SFPs and spent nuclear fuel dry casks at spent nuclear fuel storage sites. The staff will use the insights gained from these studies as it considers potential supplemental security measures.

3. Background Screening Requirements

Petitioner's Concerns

The Petitioner stated that the current background screening requirements, which permit "temporary" clearances and long-term clearances at nuclear plants, do not adequately protect the public.

NRC Response

To ensure that only specifically authorized individuals enter protected and vital areas of a nuclear plant without escort, licensees are required to implement and maintain access authorization and control programs. The objective of these programs is to provide a high level of assurance that individuals who are allowed unescorted access to protected and vital areas of a nuclear power plant are trustworthy and reliable, and do not constitute an undue risk to the health and safety of the public, including a potential to commit radiological sabotage. In order to achieve this objective, NRC regulations require licensees to: (1) limit unescorted access to individuals who require access in order to perform their duties; (2) perform background investigations on workers granted unescorted access; (3) implement a badging system to identify those persons authorized to enter specific plant areas; (4) conduct a management review at least once every 31 days to update the need for individuals to retain access to vital areas; (5) screen personnel, packages and vehicles entering the protected area; (6) search for firearms and explosives; (7) monitor entry into certain areas of the plant; and (8) maintain a detection and alarm system.

Worker background investigations include verification of an individual's true identity and confirmation of the individual's employment history, education history, credit history, military service, character, and reputation. All prospective employees must undergo a psychological assessment to evaluate trustworthiness and reliability. The investigations also include a criminal history check conducted via fingerprint submissions to the FBI. These requirements

are designed to ensure that only persons deemed trustworthy are allowed authorized unescorted access to plant protected areas and vital plant equipment on a continuing basis.

Unescorted access to the protected area for first time nuclear plant workers is achieved through a process which allows for access in a temporary capacity, after the licensee's fulfillment of specific requirements. These requirements are: (1) establishing the true identify of the applicant; (2) completion of a background investigation covering the past year; (3) completion of suitable inquiries of all employers for the past year; (4) an interview with one developed reference; (5) completion of psychological assessment; (6) a credit check; (7) submission of the applicant's fingerprints to the FBI; and (8) confirmation that the individual is not under the influence of alcohol or drugs. Additional actions post-September 11 include the limitation of temporary unescorted access to persons required to conduct essential activities, directly related to plant operation and maintenance, while under the oversight of persons with full unescorted access rights.

Prior to September 11, 2001, this temporary unescorted access period could be authorized for 180 days pending completion of those checks required to fulfill the conditions of the unescorted access authorization program. Typically, a person in a 'temporary' status will be working at a nuclear power facility for a few days to complete a specific craft assignment, and will generally fulfill an assignment lasting 60 days or less.

Once on-site, employees are subject to continuing behavioral monitoring as previously stated and are subject to fitness-for-duty requirements, which include random drug and alcohol testing. Further, those who enter the protected area pass through portal monitors that detect weapons or explosives, and all hand carried items are x-rayed or hand searched.

Despite these safeguards, which were part of the NRC pre-September 11 requirements, the NRC took additional steps after September 11. The NRC, in coordination with the FBI, checked all NRC employees, licensee personnel, licensee contractors, and registered visitors to licensee sites, against the FBI watch list established as part of the investigation of the events of September 11, 2001. As a result, NRC, in consultation with the FBI, determined that there were no positive matches between access authorization lists at the nuclear facilities and the FBI's watch list. Since that time, the Office of Homeland Security has been coordinating an effort to facilitate information sharing among Federal agencies. The NRC has also dialoged with the Immigration and Naturalization Service (INS) to make available to licensees an ability to validate the employment eligibility of employees at nuclear power plants to ensure that only persons authorized to work in the United States are employed at nuclear power plants. In addition, the INS reviewed a list of security guards with unescorted access to the plants to ensure that those persons were authorized to work in the United States. The NRC has determined, in consultation with INS, that there were no issues concerning employment eligibility of guards working at nuclear power plants.

The NRC is considering further enhancements to its requirements regarding access authorization. This effort is intended, in part, to address heightened concerns pertaining to potential insider threats. Details of these enhancements may be considered Safeguards Information and would, as such, not be made available to the public.

4. License Renewal Evaluations

Petitioner's Concerns:

The Petitioner stated that the NRC ended the public's ability to effectively challenge the NRC's decision not to require nuclear power plants to be able to withstand airborne assaults by changing its rules allowing nuclear plants to obtain new 40-year licenses without permitting citizens to challenge "generic" concerns, including risks from terrorist attack.

NRC Response

In 1995, the NRC amended the license renewal rule to establish a regulatory process that is more efficient, more stable, and more predictable than the previous license renewal rule. In particular, 10 CFR Part 54 was clarified to focus on managing the adverse effects of aging. The rule changes were intended to ensure that important systems, structures, and components will continue to perform their intended function during the 20-year period of extended operation.

There are several opportunities for members of the public to question how aging will be managed during the period of extended operation. Concerns may be litigated in a formal adjudicatory hearing if any party that would be adversely affected is granted a hearing. Members of the public may petition the Commission pursuant to 10 CFR 2.206 for consideration of issues other than the management of the effects of aging during the period of extended plant operation.

In 2001, the NRC issued Regulatory Guide 1.188, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating License," which endorsed a method of implementing the license renewal rule. Security programs were not included in the items required to be addressed for renewal of an operating license. However, additional security requirements, such as those mandated by the February 25, 2002, Orders, apply to all plants regardless of license renewal status. Additional security measures that may be identified by ongoing NRC reviews will be applied to all operating reactor licensees.

III. Conclusion

The Petitioner has raised the concern that no commercial nuclear power plant in the United States was designed to withstand the direct impact of a large commercial airliner. In addition, the Petitioner requested that compensatory measures, as set forth in the Petition, be adopted to protect the public and environment from the catastrophic impact of a terrorist attack on a nuclear power plant or an SFP.

The Petition raised concerns for public health and safety with respect to the possibility of terrorists activities directed at nuclear power plants. The staff concludes that these concerns have been reasonably addressed by actions of Congress and the FAA to enhance aviation security, actions taken by various Federal agencies to deter terrorist activities, and the issuance of Orders by the NRC to the operating nuclear power plants. The staff believes that the compensatory measures, as set forth in the Orders, are prudent, interim measures to adequately address the current threat environment in a consistent manner throughout the nuclear power industry.

The NRC staff also concludes that the Petitioner's requests have been partially granted to the extent that Petitioner's concerns are addressed by the actions taken by the NRC on February 25, 2002, to issue Orders to all operating nuclear power plant licensees to implement interim compensatory security measures for the current threat environment. The staff considered the actions taken by other Federal, State, and local agencies, that are discussed herein, in coming to this conclusion. The staff further concludes that no additional regulatory actions to take compensatory measures or to make permanent rules, as discussed in the Petition, are necessary to address the concerns raised in the Petition. The NRC staff

recognizes that the continued evaluation of the current threat environment may identify additional requirements beyond those provided by existing regulations and the ICMs specified in the February 25, 2002, Orders.

The specific actions required by the Orders contain sensitive security information, but generally include requirements for increased patrols, augmented security forces and capabilities, additional security posts, installation of additional physical barriers, vehicle checks at greater stand-off distances, enhanced coordination with law enforcement and military authorities, and more restrictive site access controls for all personnel.

These are interim measures and the basis for the Orders is the need to take prudent actions to address security requirements in the present generalized high-level threat environment. These Orders do not eliminate the need for licensees to continue to implement protective measures in response to changes in the threat environment as described in NRC Regulatory Issue Summary 2002-12A, “NRC Threat Advisory and Protective Measures System,” and maintain the effectiveness of existing security measures taken in response to the September 11, 2001, attacks. The requirements will remain in effect pending notification from the Commission that a significant change in the threat environment has occurred, or until the Commission determines that other changes are needed following the completion of the comprehensive re-evaluation of current safeguards and security programs.

Some of the requirements formalize a series of security measures that NRC licensees had taken in response to advisories issued by the NRC in the aftermath of the September 11 terrorist attacks. Additional security enhancements, which have emerged from the ongoing comprehensive security review, are also spelled out in the Orders.

A copy of this Decision will be filed with the Secretary of the Commission so that the Commission may review it in accordance with 10 CFR 2.206(c). As provided for by this

regulation, the Decision will constitute the final action of the Commission 25 days after the date of the Decision unless the Commission, on its own motion, institutes a review of the Decision within that time.

Dated at Rockville, Maryland, this 1st day of November 2002.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Jon R. Johnson, Deputy Director
Office of Nuclear Reactor Regulation

October 17, 2002

MEMORANDUM TO: Ledyard Marsh, Chair
Petition Review Board

FROM: Donna Skay
Petition Manager

SUBJECT: STAFF RESPONSE TO COMMENTS ON DRAFT DIRECTOR'S DECISION DD-02-04

This memorandum documents the NRC staff response to comments on the proposed Director's Decision (DD) DD-02-xx (National Whistleblower Center petition regarding Nuclear Power Plant security). The petitioner's comments were solicited by letter dated May 16, 2002.

The petitioner replied by letter dated August 10, 2002. The petitioner's comments and the staff responses are discussed below.

1. Petitioner's Comment:

   The proposed DD failed to address whether NRC spokespersons intentionally misled the public about the design basis of the nation's nuclear power plants.

   Staff Response:

   While the NRC staff does not believe our spokesperson intentionally mislead the public in statements made following the September 11, 2001, attacks, your concerns have been forwarded to the NRC's Office of the Inspector General (OIG) for their independent review. The NRC's OIG was established as an independent and objective unit to conduct and supervise audits, and conduct investigations relating to NRC's programs and operations. The purpose of OIG's audits and investigations is to prevent and detect fraud, waste, abuse, and mismanagement, and promote economy, efficiency, and effectiveness in NRC programs and operations. The IG serves under the general supervision of the NRC Chairman, but operates with personnel, contracting, and budget authority independent of that of the NRC. The OIG keeps the Chairman and the Congress fully and currently informed about problems, recommends corrective actions, and monitors NRC's progress in implementing such actions.

2. Petitioner's Comment:

   The staff has not provided a valid technical basis to assure the public that nuclear power plants can successfully cope with the impact of a large commercial jet.

Staff Response:

Nuclear power plants were not specifically designed to withstand a deliberate, high-velocity impact from a large commercial airliner filled with fuel. Detailed analyses of a large airliner crash have not yet been performed.

However, in the months since the September 11 attacks, the NRC staff has been evaluating the effects of a deliberate aircraft impact and the resulting fire on the structural integrity of the reactor containment building and other reactor support facilities, including spent fuel storage facilities. Variables considered in the analyses include aircraft size, speed, fuel load and explosive payloads. 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 not yet available. 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.

In the interim, in view of the intelligence information at hand, enhancements to site security, and steps taken to improve aviation security that are detailed in the Director's Decision, the NRC has concluded that it is appropriate to allow nuclear power plants to continue to operate.

3. Petitioner's Comment:

The proposed DD contradicts previous NRC reports by stating that "the probability of terrorists using a large airliner to damage a nuclear plant remains acceptably low" when the 2000 Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants stated that no established methods exist for estimating the likelihood of a sabotage event.

Staff Response:

The NRC quantified the probability of random equipment failures, human errors, and external events that could lead to inadequate cooling based upon extensive data and dependable methods for estimating the frequency of such random events. Radiological sabotage and terrorist attacks are deliberate acts, and, as such, their frequency cannot be similarly quantified.

Although insufficient information is available to reasonably quantify the probability of a radiological sabotage event, the NRC assesses the likelihood of a terrorist attack against any licensed facility in a qualitative sense. The Commission has qualitatively assessed physical security risks by considering the threat environment, plant-specific designs and target sets, vulnerabilities, program attributes, prescribed design-basis threat 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. As discussed

in the Director's Decision, additional interim security measures have been implemented following the events of September 11, 2001.

However, the NRC staff revised the Director's Decision to respond to the Petitioner's comments and concerns, and to avoid confusion associated with predicting terrorist activities.

4. Petitioner's Comment:

The staff failed to address the Petitioner's concern that the probabilistic risk assessment currently utilized by NRC is no longer valid because it intentionally excludes sabotage and terrorist attack.

Staff Response:

See response to comment 3 above.

5. Petitioner's Comment:

The staff failed to address an inaccurate statement that was made in the NRC's October 2000 Technical Study of Spent Fuel Pool Accident Risk of Decommissioning Nuclear Power Plants. The petitioner asserted that this report states that factoring in terrorist attacks would reduce the overall risk of an offsite release.

Staff Response:

The referenced report states that contributions to risk from safeguards events (i.e., terrorist attacks and sabotage) are not included in the frequency estimates. The report then states that Emergency Planning might also provide dose savings in such events. The intent of the second sentence is to recognize that, in the event of a terrorist attack, sufficient Emergency Planning would help to reduce the resultant dose to the public. It was not intended to infer that the terrorist attack itself would reduce the risk of offsite release.

6. Petitioner's Comment:

The proposed DD erroneously states that the SFPs have a robust design since the NRC's 2000 study on Spent Fuel Pool Accident Risk admits that 50% of flying aircraft can penetrate a SFP's containment.

Staff Response:

The staff believes that the characterization of the SFP 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 airliner, 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 plant, including the SFP.

7. Petitioner's Comment:

The Petitioner requested that the NRC withdraw the proposed DD and prepare a meaningful technical analysis of (1) the costs associated with hardening nuclear facilities; and (2) the means and methods to determine whether the current design-basis threat can be met given the likelihood of an intentional air crash.

Staff response:

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.

At this time, however, the review is ongoing. In the interim, and in some instances based on evaluations performed in conjunction with the comprehensive security and safeguards 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.

7590-01-P

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

ALL NUCLEAR POWER REACTOR LICENSEES

NOTICE OF ISSUANCE OF DIRECTOR'S DECISION UNDER 10 CFR 2.206

Notice is hereby given that the Director, Office of Nuclear Reactor Regulation, has taken action on the October 24, 2001, Petition under Section 2.206 of Title 10 of the *Code of Federal Regulations* (10 CFR 2.206) submitted by Mr. Michael D. Kohn (petitioner) on behalf of the National Whistleblower Center. By letter dated January 27, 2002, Mr. Michael D. Kohn submitted an amended Petition. The amended Petition included the names of six additional Petitioners who requested to be added to the Petition. The petitioner requested that the Nuclear Regulatory Commission (NRC) take corrective action to protect the public against the possibility of terrorists seizing control of a large commercial airliner and crashing it into a nuclear power plant in the United States. In addition, the petitioner requested that the NRC take compensatory measures, as set forth in the Petition, to protect the public and environment from the catastrophic impacts of any type of terrorist attack on a nuclear power plant or a spent fuel pool (SFP). The petitioner also requested that the NRC ensure that these compensatory measures are immediately implemented, and that the NRC issue permanent rules, as discussed in the Petition. As a basis for the request described above, the Petitioner stated that:

- No commercial nuclear power plant located in the United States can withstand the impact of a large commercial airliner.

- The NRC intentionally misled the public about its failure to adequately consider risks associated with an air assault on a nuclear facility.

Enclosure 4

- The NRC knew or should have known that the current design and security measures at the spent fuel pools [SFPs] located at each nuclear power plant are incapable of protecting the population from the catastrophic release of radiation from a potential terrorist attack and immediate and long-term compensatory measures are needed to protect the United States and its citizens.
- The NRC [sic] radioactive material contained in the spent fuel pools are [sic] extremely vulnerable to terrorist attack within six months of a refueling outage. Immediate and long-term compensatory measures are needed to protect the United States and its citizens from an attack on a spent fuel pool within this six month window.
- The NRC must work directly with other security offices in approving compensatory security measures and in approving utility security plans and must re-evaluate its 1979 EIS [Environmental Impact Statement] and 1998 Final Rule regarding SFPs.
- The current background screening requirements which permit "temporary" clearances at nuclear plants do not adequately protect the public.
- The current background screening requirements for long-term clearances at nuclear plants do not adequately protect the public.
- The NRC ended the public's ability to effectively challenge the NRC's decision not to require nuclear power plants to be able to withstand airborne assaults by

changing its rules allowing nuclear plants to obtain new 40 year licenses without permitting citizens to challenge "generic" concerns, including risks from terrorist attack.

The NRC sent a copy of the proposed Director's Decision to the petitioner by letter dated May 16, 2002. The petitioner responded with comments by letter dated August 10, 2002. The comments and the staff response to them are enclosures to the Director's Decision.

The staff has partially granted the Petitioner's request to the extent that the NRC has addressed the Petitioner's concerns by issuing Orders on February 25, 2002, to all operating commercial nuclear power plant licensees to implement interim compensatory security measures for the generalized high-level threat environment. The reasons for this determination are explained in the Director's Decision pursuant to 10 CFR 2.206 (DD-02-04), the complete text of which is available in ADAMS for inspection at the Commission's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland, and from the ADAMS Public Library component on the NRC's Web site, http://www.nrc.gov/reading-rm.html (the Public Electronic Reading Room) at Accession No. ML022470090. If you do not have access to ADAMS or have problems in accessing the documents in ADAMS, contact the NRC Public Document Room reference staff at 1-800-397-4209 or 301-415-4737 or by e-mail to pdr@nrc.gov.

A copy of the Director's Decision will be filed with the Secretary of the Commission so that the Commission may review it in accordance with 10 CFR 2.206(c) of the Commission's regulations. As provided for by this regulation, the Director's Decision will constitute the final action of the Commission 25 days after the date of the decision unless the Commission, on its own motion, institutes a review of the decision within that time.

Dated at Rockville, Maryland, this 1st day of November 2002.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Jon R. Johnson, Deputy Director
Office of Nuclear Reactor Regulation