November 7, 2005

The Nuclear Security Coalition
c/o Ms. Deb Katz
Citizens Awareness Network
P.O. Box 83
Shelburne, MA 01370

Dear Ms. Katz:

This letter responds to the Petition that you filed on behalf of the Nuclear Security Coalition (the Petitioner) with Mr. Luis Reyes, Executive Director for Operations at the Nuclear Regulatory Commission (NRC), pursuant to Section 2.206 of Title 10 of the *Code of Federal Regulations* (10 CFR 2.206) on August 10, 2004, as supplemented by Paul Gunter of the Nuclear Information and Resource Service, who is a member of the Nuclear Security Coalition, on November 29, and December 6, 2004, and March 15, March 28, April 12, and April 19, 2005.

In its Petition, the Petitioner requested that the NRC take the following actions: (1) issue a demand for information to the licensees for all Mark I and II boiling-water reactors (BWRs) and conduct a 6-month study of options for addressing structural vulnerabilities; (2) present the findings of the study at a national conference attended by all interested stakeholders and transcribe comments and questions; (3) develop a comprehensive plan that accounts for stakeholder concerns and addresses structural vulnerabilities of all Mark I and II BWRs within a 12-month period; (4) issue orders to the licensees for all Mark I and II BWRs compelling incorporation of a comprehensive set of protective measures, including structural protections; and (5) make future operation of each Mark I and II BWR contingent on addressing their structural vulnerability with participation and oversight by a panel of local stakeholders.

Representatives of the Petitioner met, in person and by telephone, with the Petition Review Board (PRB) to discuss the petition (the meeting summary, with the transcript enclosed, was issued on October 13, 2004). The PRB considered the results of that discussion when considering the Petitioner's request for action and determining the review schedule for the Petition.

In a letter dated October 19, 2004, the NRC staff informed you that the Petition was being treated pursuant to 10 CFR 2.206 of the NRC's regulations and that the requested actions were being reviewed jointly by the Offices of Nuclear Reactor Regulation, Nuclear Security and Incident Response, and Nuclear Regulatory Research for appropriate action.

The NRC staff sent a copy of the proposed Director's Decision (DD) to you for comment on June 29, 2005. On July 29, 2005, the NRC staff received comments from the Petitioner, the Nuclear Information and Resource Service, and the Pilgrim Security Watch. These comments were considered in the final DD (Enclosure 1). The staff's response to the comments are also enclosed (Enclosure 2). The final DD addresses the Petitioner's requested actions as follows: (1) NRC has granted, in effect, the proposed demand for all licensees of Mark I and II BWRs to conduct a 6-month study of options for addressing structural vulnerabilities; (2) NRC denies the proposed national conference to present the findings of the study; (3) NRC considers that it has granted the proposed development of a comprehensive plan to account for stakeholder

concerns and address structural vulnerabilities of all Mark I and II BWRs; (4) NRC denies the proposed issuance of orders to the licensees for all Mark I and II BWRs compelling incorporation of a comprehensive set of protective measures; and (5) NRC denies the proposed requirement that future operations of all Mark I and II BWRs be contingent on licensees addressing the structural vulnerability of their reactors, with participation and oversight by a panel of local stakeholders.

A copy of the DD-05-04 will be filed with the Secretary of the Commission for the Commission to review in accordance with 10 CFR 2.206(c). As provided for by this regulation, the DD will constitute the final action of the Commission 25 days after the issue date of the DD unless the Commission, on its own motion, institutes a review of the DD within that time. The documents cited in this letter and the enclosed DD are available in NRC's Agencywide Documents Access and Management System (ADAMS) for inspection at the Commission's Public Document Room, located at One White Flint North, Public File Area O-1F21,1 1555 Rockville Pike (first floor), Rockville, Maryland, and from the ADAMS Public Library component on the NRC Web site in the Electronic Reading Room <http://www.nrc.gov>.

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 (Enclosure 3).

Please feel free to contact Mr. Peter S. Tam, petition manager, at 301-415-1451, to discuss any questions related to this petition.

Sincerely,

/RA/

J. E. Dyer, Director
Office of Nuclear Reactor Regulation

Enclosures:
1. DD-05-04
2. Staff's Response to Comments
3. *Federal Register* Notice

concerns and address structural vulnerabilities of all Mark I and II BWRs; (4) NRC denies the proposed issuance of orders to the licensees for all Mark I and II BWRs compelling incorporation of a comprehensive set of protective measures; and (5) NRC denies the proposed requirement that future operations of all Mark I and II BWRs be contingent on licensees addressing the structural vulnerability of their reactors, with participation and oversight by a panel of local stakeholders.

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Sincerely,

/RA/

J. E. Dyer, Director
Office of Nuclear Reactor Regulation

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Actions to Provide Storage Defenses of Boiling-Water Reactor with Mark I and Mark II Containment and their Spent Fuel - 2.206 Petition

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DD-05-04

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION

J. E. Dyer, Director

In the Matter of	)	
	)	
Boiling-Water Reactors of	)	(10 CFR 2.206)
Mark I and II Design	)	

DIRECTOR'S DECISION UNDER 10 CFR 2.206

I. Introduction

By letter dated August 10, 2004, addressed to Mr. Luis A. Reyes, Executive Director for Operations at the U.S. Nuclear Regulatory Commission (NRC), as supplemented in a meeting on September 23, 2004 (documented in a meeting summary dated October 13, 2004, Agencywide Document Access and Management System (ADAMS) Accession No. ML042870571), the Nuclear Security Coalition (the Coalition or the Petitioner) filed a Petition pursuant to Title 10 of the *Code of Federal Regulations*, Section 2.206 (10 CFR 2.206). Additional information was submitted by Paul Gunter of the Nuclear Information and Resource Service, who is a member of the Coalition, on November 29, 2004 (Accession No. ML043420386); December 6, 2004 (Accession No. ML043420423); March 15, 2005 (Accession No. ML050750005); March 28, 2005 (Accession No. ML050880013); April 12, 2005 (Accession No. ML 051170034); and April 19, 2005 (Accession No. ML051160159). The Coalition, comprised of 45 independent organizations, requested that the NRC take the following actions: (1) issue a Demand For Information to the licensees of all Mark I and II boiling-water reactors (BWRs) and conduct a 6-month study of options for addressing structural vulnerabilities; (2) present the findings of the study at a national conference attended by all interested stakeholders, providing for transcribed comments and questions; (3) within 12 months develop a comprehensive plan that accounts for stakeholder concerns and addresses structural

vulnerabilities of all Mark I and II BWRs; (4) issue orders to the licensees for all Mark I and II BWRs compelling incorporation of a comprehensive set of protective measures, including structural protection measures; and (5) make future operation of each Mark I and II BWR contingent on licensees addressing their structural vulnerabilities with the participation and oversight of a panel of local stakeholders.

In addition to the five actions summarized above, the Coalition stated that the Petition supports the concerns raised by the National Academy of Sciences (NAS) in a "report on fuel pool vulnerabilities to be released this month." The Petitioner's letter of April 19, 2005, explained its agreement with the April 2005 public summary of the NAS report.

The Petitioner's representatives participated in a meeting and teleconference with the Petition Review Board (PRB) on September 23, 2004, to discuss the Petition. This interaction gave the Petitioner's representatives an opportunity to provide additional information and to clarify issues raised in the Petition. The results of this discussion were considered in the PRB's determination regarding the request for action and in establishing the schedule for reviewing the Petition.

In a letter dated October 19, 2004 (Accession No. ML042880346), the PRB notified the Petitioner that the PRB would treat this request pursuant to 10 CFR 2.206 of the Commission's regulations.

The aforementioned correspondence and a transcript of the September 23, 2004, teleconference are available in ADAMS for inspection at the Commission's Public Document Room (PDR) at One White Flint North, Public File Area 01 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records are also accessible from the ADAMS Public Electronic Reading Room on the NRC Web site, http://www.nrc.gov/reading-rm/adams.html. Persons who do not have access to ADAMS or have problems in accessing

the documents located in ADAMS, should contact the NRC PDR reference staff by telephone at 1-800-397-4209 or 301-415-4737 or by e-mail to pdr@nrc.gov.

II. Discussion

As discussed in Section I, the Petitioner requested that the NRC take certain actions regarding Mark I and II BWRs. The specific requested actions are restated along with the Coalition's supporting assertions and discussed in the following sections.

As stated earlier, the Petitioner expressed support for the concerns raised by the NAS in its report on fuel pool vulnerabilities. In April 2005, the NAS published a public summary of its classified report. Prior to the release of this public summary, the NRC had responded to the NAS report (classified non-public version) in a letter from Chairman Nils J. Diaz to Senator Pete V. Domenici dated March 14, 2005 (Accession No. ML050280428). In that letter, the NRC stated that: (1) the NAS report reinforces the validity of recent NRC studies which indicate that spent fuel storage systems are safe and secure, and of NRC actions to improve the safety and security of such systems; (2) there are a number of areas of NRC disagreement with the NAS report; (3) some scenarios postulated by the NAS are unreasonable; and (4) some NAS recommendations lack a sound technical basis. Although the Petitioner endorsed the NAS report, and in its April 19, 2005, letter discussed the Petitioner's agreement with the public summary of the NAS report, the staff noted that the Petitioner did not provide any new information that could alter the position already expressed in Chairman Diaz's letter of March 14, 2005, to Senator Domenici. Accordingly, the technical matters discussed in Chairman Diaz's March 14, 2005, letter need no further elaboration in this Director's Decision. The NRC staff's response to the Coalition's five specific requested actions are as follows.

Requested Action 1 - Demand BWR I and II licensees to conduct a 6-month study of options for addressing structural vulnerabilities

A. *Petitioner's Concern*

The Petitioner requested that the NRC order the BWR Mark I and II licensees to conduct a full review of each facility's structural vulnerabilities. The Coalition's request was based on assertions that nuclear power plants are key national assets (i.e., prime targets for attacks) and that BWRs with Mark I and II containments are particularly vulnerable to air attack. Accordingly, defense of these assets is a national security imperative.

B. *NRC Staff's Response*

Nuclear plants incorporate structural features to protect against severe external events such as tornadoes, hurricanes, fires and floods. These structural features, supported by the deployment of effective and visible physical protection measures, provide a deterrent to terrorist activities. With respect to potential terrorist attacks by air, Federal efforts have increased substantially since September 11, 2001. Those efforts include enhanced airline passenger and baggage screening, strengthened cockpit doors, and the Federal Air Marshals program, among others. Federal law enforcement and intelligence agencies have increased efforts to identify and mitigate potential aircraft-related threats before they can be carried out. In more than one case, the Department of Defense and Federal Aviation Administration (FAA) have acted to protect airspace above nuclear power plants in response to threats which were later determined to be non-credible. These and other government-wide efforts have improved protection against air attacks on all industrial facilities, both nuclear and non-nuclear. Nonetheless, nuclear plant licensees have well established emergency procedures and severe accident management guidelines that provide a means to help mitigate the potential consequences of terrorist attacks should they occur.

With respect to spent fuel storage, the NRC issued new security requirements for both spent fuel pools and dry casks after September 11, 2001. The NRC continues to inspect each facility's performance to verify effective implementation of the associated security programs and mitigating strategies.

In addition, the NRC is continuing to study various pressurized-water reactor (PWR) and BWR plant systems, including spent fuel storage, to determine whether additional mitigating strategies are warranted. Specifically, the NRC completed detailed structural assessments at two spent fuel pools (SFPs), the results of which indicate that significant releases of radioactivity due to a terrorist attack on a SFP are very unlikely. The NRC is performing plant-specific inspections and assessments at all BWR Mark I and II spent fuel pools. The NRC staff is evaluating the adequacy of licensee measures to restore and maintain effective spent fuel cooling, if the pool were to be damaged. The NRC is also participating in a longer term international cooperative testing program to examine spent fuel heatup behavior in an air environment (i.e., loss of spent fuel pool cooling water inventory). The NRC's ongoing research has provided numerous additional insights that have been provided to licensees so they can develop additional mitigating actions and strategies as warranted.

In summary, the NRC, other agencies of the Federal government, the local governments, and the licensees have taken and continue to take extensive actions to enhance protection of these facilities in a manner consistent with NRC's defense-in-depth philosophy. These actions have significantly improved the safety and security of spent fuel storage. Therefore, the intent of the six-month study requested by the Petitioner has been achieved. Accordingly, the Petitioner's request has, in effect, been granted.

Requested Action 2 - Present the findings of the study at a national conference for all interested stakeholders, providing for transcribed comments and questions

A. *Petitioner's Concern*

The Petitioner asked that the NRC present the findings of the requested vulnerability study at a national conference for all interested stakeholders. The Petitioner's request was based on an assertion that the public should be involved in addressing the structural vulnerabilities of nuclear power plants and involved in developing stronger defenses for Mark I and II BWRs.

B. *NRC Staff's Response*

The NRC is committed to ensuring openness and obtaining public input in its decision-making. The NRC attempts to keep the public appropriately informed within the constraints of the law. As part of its mission to protect the public health and safety, common defense and security, and the environment, the NRC must ensure that sensitive information about the Nation's nuclear facilities does not fall into the hands of terrorists. Public release of information concerning physical security of nuclear facilities, known as Safeguards Information (SGI), which could potentially be exploited by an adversary would be contrary to the NRC's efforts to ensure protection of the Nation's nuclear infrastructure and to NRC's statutory duties. See Section 147 of the Atomic Energy Act of 1954, as amended, 42 USC. §2166, and 10 CFR 73.21(c). In addition, the NRC's assessments of BWR structural vulnerabilities, including both the methodology employed and the results, are classified as national security information pursuant to Executive Order 12958, as amended on November 1999 and March 2003. Public release of national security information is prohibited pursuant to 10 CFR 95.35. Since the information which the Petitioner wishes to discuss at a national conference of stakeholders is either safeguards or national security information, the Petitioner's request for a presentation of a

vulnerability study at a national conference of all interested stakeholders must be denied. The NRC notes, however, that some of this information has been declassified and is available in the public domain (e.g., Chairman Diaz's March 14, 2005, letter and the publicly available summary of the NAS report).

Requested Action 3 - Within 12 months develop a comprehensive plan that accounts for stakeholder concerns and addresses structural vulnerabilities of all Mark I and II BWRs

A. *Petitioner's Concerns*

The Petitioner requested that the NRC develop a comprehensive plan that accounts for stakeholder concerns and addresses structural vulnerabilities of all Mark I and II BWRs within 12 months. The Petitioner's request was based on assertions that BWRs with Mark I and II containments are particularly vulnerable to attacks and that the NRC requires only light defenses for commercial nuclear plants.

B. *NRC Staff's Response*

As indicated in the response to Requested Action 1, the NRC has already developed and implemented a comprehensive plan consistent with stakeholder concerns. Further, the NRC disagrees with the Petitioner's contention that NRC requires only light defense of commercial nuclear plants. To the contrary, the NRC, other agencies of the Federal government, local governments, and the licensees have implemented broad and comprehensive measures that more than meet the intent of the Petitioner's request for a comprehensive plan on security enhancement (see discussion under Requested Action 1).

Subsequent to September 11, 2001, NRC assessments (discussed under Requested Action 1) prompted the NRC to adjust its requirements for mitigation of a variety of potential terrorist attacks against nuclear facilities. As a result, on February 25, 2002, the NRC issued orders to all operating nuclear reactor facilities, requiring that interim compensatory security

measures be implemented beyond those called for by current regulations. Several additional security-related orders have been issued since then, most notably a supplemental design basis threat, that required additional security enhancements to be implemented at each nuclear plant site. See 68 FR 24517 (May 7, 2003).

The NRC also issued a letter on July 29, 2004, with a sensitive unclassified Safeguards Information enclosure specifying certain mitigative measures for licensees to take to enhance their ability to restore and maintain effective fuel cooling if the pool or the overlying structure were severely damaged. The NRC staff met with power reactor licensees in February 2005 on the NRC's spent fuel pool mitigation measures. At the end of February 2005, power reactor licensees were given until May 2005 to respond to the additional specific recommendations. The NRC staff is currently evaluating these responses to ensure they meet NRC's expectations. The NRC carried out its inspections in September and October of this year. A final report is due to the Commission in December.

Lastly, and as indicated previously, the NRC continues to conduct independent assessments of plant and system vulnerabilities (including SFP's) to terrorist attacks and to work with the nuclear industry and individual licensees to implement, as appropriate, additional plant-specific mitigation strategies. Accordingly, this request is considered to have been granted.

Requested Action 4 - Issue orders to Mark I and II BWRs compelling incorporation of a comprehensive set of protective measures, including structural protection

A. *Petitioner's Concerns*

The Petitioner requested the NRC to issue orders to the licensees for all Mark I and II BWRs compelling incorporation of a comprehensive set of protective measures, including structural protection. The Petitioner's request was based on the assertion that, though

stronger defense options are available for Mark I and II BWRs, the NRC requires only light defenses for commercial nuclear facilities.

B. *NRC Staff's Response*

Nuclear power plants are among the best protected private sector facilities in the nation. Commercial nuclear power plants are protected by physical barriers, armed guards, intrusion detection systems, area surveillance systems, access controls, and access authorization requirements for personnel working inside the plants. Physical protection was further enhanced through a series of NRC orders issued after September 11, 2001. As a result, nuclear plant licensees have further strengthened their already well-protected facilities by providing additional security measures that add to the layered protective strategies established to defend against potential terrorist attacks. The NRC has also enhanced coordination among applicable Federal, State, and local agencies responsible for protecting the national critical infrastructure.

As indicated in the response to the petitioner's Requested Action 1, NRC studies to date indicate that significant releases of radioactive material due to a terrorist attack on a spent fuel pool are very unlikely. Therefore, additional protective measures relating to structural protection of Mark I and II BWRs are not considered necessary at this time.

In summary, the NRC staff has already achieved what the Petitioner has requested, although no additional order was issued specifically to Mark I and II BWR licensees. Therefore, this request for orders to compel incorporation of a comprehensive set of protective measures has been denied.

Requested Action 5 - Make future operation of each Mark I and II BWR contingent on addressing its structural vulnerabilities with participation and oversight of a panel of local stakeholders

A. *Petitioner's Concerns*

The Petitioner requested that the NRC make future operation of each Mark I and II BWR contingent on licensees addressing their plants' structural vulnerabilities with the participation and oversight of a panel of local stakeholders. The Petitioner's request was based on the premise that the public should be involved in examining vulnerabilities and developing security plans for BWRs with Mark I and II containment designs.

B. *Staff's Response*

The operation of power reactor plants is contingent on licensees' conducting their operations in accordance with NRC regulatory requirements and other conditions of their operating licenses. As stated previously, since September 11, 2001, the NRC has imposed by order numerous enhancements at all nuclear plants to protect against a range of threats. Effective licensee implementation of these requirements has been and continues to be the subject of independent NRC inspections. As such, and for all of the reasons stated in response to the other requested actions, the NRC finds no justification for imposing any new requirements specifically on BWR Mark I and II designs. Using the established regulatory framework, and when deemed appropriate and necessary based on risk insights from NRC's continued assessments of plant and system vulnerabilities, the NRC will take appropriate actions to ensure adequate protection of public health and safety, the environment, and the common defense and security. Accordingly, this part of the Petitioner's request is denied.

It is the NRC's policy to encourage public involvement in its regulatory activities. Public concerns and interests have always been, and will continue to be, a high priority for the

NRC. There are many ways for the public to be involved in almost all of the NRC's processes. With respect to security and safeguards, the NRC maintains close and continuous interaction with the Department of Homeland Security, the Federal Bureau of Investigation, the Central Intelligence Agency, and other government agencies to ensure that threat assessments and suspicious activities are vetted by the intelligence and law enforcement communities. Although there must be a close hold on sensitive information involving the details of security efforts, it should be clear that the NRC and licensees have been very actively pursuing security enhancements at nuclear power plants. In addition to its inspection and evaluation of licensee security programs and mitigation strategies, the NRC continues to performs its Congressionally-mandated responsibilities for security by confirming the effectiveness of security plans through the force-on-force testing and inspections pursuant to the Reactor Oversight Program. The public is free to comment on this and any aspect of the NRC's oversight process. Therefore, the request for the participation and oversight of a panel of stakeholders has also been denied.

As provided in 10 CFR 2.206(c), a copy of this Director's Decision will be filed with the Secretary of the Commission for the Commission to review. 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 7th day of November 2005.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

J. E. Dyer, Director
Office of Nuclear Reactor Regulation