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Luis Reyes
Office of the Executive Director of Operations
U.S. Nuclear Regulatory Commission
Washington, DC 20555

By FAX (301) 415-2700

**PETITION TO THE U.S. NUCLEAR REGULATORY COMMISSION
REQUESTING ACTIONS TO PROVIDE STRONGER DEFENSES OF
BOILING-WATER REACTORS WITH MARK I & II CONTAINMENTS
AND THEIR SPENT FUEL**

Dear Mr.Reyes:

The Nuclear Security Coalition, a consortium of independent organizations that serve the public interest, submits this Petition to the US Nuclear Regulatory Commission (NRC). An accompanying document, the Annex, provides supporting information and is part of the Petition.

Member organizations of the Nuclear Security Coalition are, collectively, the Petitioners. Names of these organizations, and of the individual designated to represent each organization, are provided below.

This Petition is submitted pursuant to NRC Regulations 10 CFR Part 2, Subpart B, whereby any person may request the NRC to institute a proceeding to impose requirements by order, to modify, suspend or revoke a license, or to take such other action as may be proper.

The NRC is obligated by the Atomic Energy Act of 1954, as amended, to take actions of the type requested in this Petition. The Act states in Title I, Chapter 1, Section 2(d):

"The processing and utilization of source, byproduct, and special nuclear material must be regulated in the national interest and in order to provide for the common defense and security and to protect the health and safety of the public."

Pursuant to House Appropriations Committee Report 108-554 (June 18, 2004), NRC is required to take "immediate steps" to upgrade spent fuel pool safety and security, to

conduct further analyses of pool vulnerabilities, and to report back to the committee within 90 days, in response to the National Academy of Sciences (NAS) report on fuel pool vulnerabilities to be released later this month. This petition supports the concerns raised by the NAS and the Appropriations Committee.

This Petition discusses potential destructive attacks on nuclear facilities, attacks that could cause great public harm. No information is contained in the Petition, including its Annex, that could assist the perpetrator of such an attack. Accordingly, this Petition is appropriate for general distribution.

The facts and arguments set forth in the accompanying Annex establish the following points:

- (i) nuclear power plants are key national assets and prime targets for attack;
- (ii) defending nuclear power plants is a national-security imperative;
- (iii) the NRC requires only a light defense of nuclear power plants;
- (iv) nuclear power plants and their spent fuel are vulnerable to attack;
- (v) boiling-water reactors (BWRs) with Mark I & II containments have a particular vulnerability to attack;
- (vi) options are available for stronger defense of Mark I & II BWRs; and
- (vii) the public should be involved in developing stronger defenses.

Accordingly, the Petitioners request that the NRC takes the following enforcement actions:

- (i) issue a Demand For Information to the licensees for all Mark I and II BWRs and conduct a 6-month study of options for addressing structural vulnerabilities;
- (ii) present the findings of the study at a national conference attended by all interested stakeholders, providing for transcribed comments and questions;
- (iii) 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;
- (iv) 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
- (v) 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.

The Demand For Information will require the licensees to provide answers to the following questions:

1. What is the current licensed capacity and inventory for spent fuel assembly storage in the spent fuel pool?

2. What is the projected number of spent fuel assemblies to be discharged from the reactor core in the next five and ten years?
3. What is the calculated decay heat load on the spent fuel pool from the current inventory and licensed capacity of spent fuel assemblies?
4. What is the calculated decay heat load on the spent fuel pool from the inventory of spent fuel assemblies projected to be discharged from the reactor core in the next five and ten years?
5. What is the radionuclide inventory of the spent fuel pool at its design basis loading?
6. What is the water volume of the spent fuel pool?
7. What is the design heat removal capacity of the spent fuel pool cooling system?
8. Is the facility licensed for onsite dry storage of spent fuel? If so, how many spent fuel assemblies are currently in dry storage?
9. What are the spent fuel pool water makeup capabilities (sources and flow rates)?
10. What are the results from studies, evaluations, and/or analyses conducted on the vulnerability of the spent fuel pool to (a) aircraft, (b) tornado-generated missiles, and (c) fires?

Sincerely,

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