Pilgrim Security Watch



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July 29, 2005

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Reply to NRC Director's Decision for the Nuclear Security Coalitions Emergency Enforcement Petition (10 CFR 2.206) Dated August 10, 2004 Regarding the Structural Vulnerability of the GE Boiling Water Reactor MARK I & II Spent Fuel Pools

Mr. Dyer:

Pilgrim Watch is a member of the Nuclear Security Coalition, hereafter referred to as the Petitioners. We signed the following reply to the Proposed Director's Decision dated June 29, 2005 regarding an Emergency Enforcement Petition (10 CFR 2.206) requested on August 10, 2004 that focused on the structural vulnerability of 32 "spent" nuclear fuel storage pools for high-level radioactive waste generated in the General Electric Boiling Water Reactor MARK I and II units (GE BWR); and in addition, attach further remarks.

As the Petitioners have stated:

- 1. Nuclear reactors are known terrorist targets -vulnerable to attack;
- 2. Densely -packed spent radioactive fuel pools are especially vulnerable;
- GE Mark I and II Boiling Water Reactors' spent fuel pools are the most vulnerable targets because of their location with respect to ground level and construction. They are elevated in the main reactor building, outside primary containment, without a reinforced superstructure- vulnerable from three-sides and the roof;
- 4. If the water in any densely packed spent nuclear fuel pool is lost, even a year and longer after discharge, the fuel will heat up to the point where its zircoloy cladding will melt and then catch fire. The resulting fire will not be able to be extinguished and has the potential of significantly contaminating hundreds of miles downwind.

The Petitioners asked NRC to take specific emergency enforcement actions to include:

- 1. A comprehensive study for addressing structurally vulnerable fuel pools;
- 2. A public presentation of non-safeguard findings;
- 3. Development of a comprehensive plan to address structural vulnerabilities;
- 4. Issue Orders to Mark I and II operators incorporating the structural protection of elevated and vulnerable fuel storage pools; and
- 5. Require future operation to be contingent on addressing the structural vulnerabilities.

The Petitioners' requested actions are factually supported by key findings and recommendations of the National Academy of Sciences in their April 2005 Public Report to Congress, <u>Safety & Security of Commercial Spent Nuclear Fuel Storage</u> which in its redacted form publicly summarizes the classified report provided to Congress in 2004.

These key findings are specifically relevant to the structural vulnerability of the Mark I and II elevated storage pools. Further, the NAS report clearly establishes a model and threshold for publicly presenting non-safeguards and non-classified information related to the public health, safety and security.

The NRC has responded by dismissing the findings of the National Academy's report specific to the risk and consequence of elevated storage pools in the Mark I and II BWR stating that the agency "identified a number of areas of disagreement with the NAS Committee's conclusions" including "some scenarios that are unreasonable" and "NRC staff also disagreed with some NAS recommendations and indicated that its conclusion that they lack a sound technical basis."¹ NRC then denied the Petitioners' requested enforcement actions as supported by these NAS findings, accordingly, stating "the technical matters [as identified by NAS] discussed in Chairman Diaz's March 14, 2005 letter need no further elaboration in this Director's Decision."²

Given that the NAS Committee has not retracted, revised or reversed any of its findings, conclusions and recommendations related to the public health, safety and security, it is NRC that has established a significant and genuine dispute involving the scientific and technical matters of the NAS findings and conclusions pertinent to the Petitioners requested emergency enforcement actions as supported by same NAS findings and conclusions.

The Petitioners submit this evidence of a genuine and unresolved dispute as new information in support of the requested emergency enforcement actions in the August 10, 2004 petition.

NRC cannot simply dismiss the Petitioners' bases of fact and requested actions which are supported in large part by National Academy's study – as well as dismiss the National Academy's study. A standard of review requires that NRC demonstrate with facts, not as they do with broad brushed opinions, that no reasonable person could have reached the same conclusions as did the NAS Committee's experts.

¹ Letter from Commissioner Nils Diaz to Senator Pete Domenici, March 14, 2004, U.S. Nuclear Regulatory Commission Report to Congress on the National Academy of Sciences Study on the Safety and Security of Commercial Spent Nuclear Fuel Storage, (ML050280428)

² Proposed Director's Decision Under 10 CFR 2.206, J.E. Dyer, Director, NRR, U.S. NRC, June 29, 2005, p. 5

The Petitioners further raise this failure to meet a reasonable standard of review as an important new issue in the matter of addressing the final disposition of the requested enforcement actions of this petition.

The United States Congress asked the National Academy of Sciences to provide an independent scientific and technical analysis on the safety and security of the commercial spent nuclear fuel storage including the GE BWRs that are the subject of the emergency enforcement petition and the Proposed Director's Decision. The National Academy's report strongly supports the basis of the Petitioners' requested actions specifically with regard to the BWRs, namely, the structural vulnerability of the elevated spent nuclear fuel storage ponds and the associated risks, consequences and need for mitigation. The Petitioners contend that it is now the findings, conclusions and recommendations of NAS that are presumed to be correct.

Because of the Congressional mandate, the NRC (and not the public) has the burden of proving that the NAS conclusions were wrong. It is now the NAS conclusion, and not that of the NRC that is entitled to the presumption of correctness. Now it is the NRC, and not the public, that has the burden of proof. In short, the NRC is now outside the group that is entitled to the presumption of administrative correctness – the shoe is on the other foot.

NRC cannot simply say that it is in "disagreement" and "need no further elaboration" on a dispute with the NAS findings and dismiss both the independent study and the emergency enforcement petition. Congress assigned NAS to provide the analysis to mitigate identified vulnerabilities to spent nuclear fuel storage systems, including the more vulnerable nuclear waste storage structures elevated to the upper portions of the BWR reactor buildings.

NRC cannot now glibly dismiss the bases of fact of both the NAS study and the petition without factually addressing the dispute it has created with the NAS findings and conclusions and those of the Petitioners.

Rather, NRC has the burden of proof that NAS, and our contentions as requested actions that are supported by NAS, not only reached a conclusion with which the NRC disagrees, but that no reasonable person could have reached the same conclusions as did NAS.

The Nuclear Security Coalition, therefore, requests that the Proposed Director's Decision be revised to adopt the requested enforcement actions of the August 10, 2004 petition.

ATTACHMENT

Analyses NRC Director's Decision For The Nuclear Security Coalitions Emergency Enforcement Petition (10 CFR 2.206) Dated August 10, 2004 Regarding The Structural Vulnerability Of The GE Boiling Water Reactor MARK I & II Spent Fuel Pools

PETITIONERS' DEMAND FOR ACTION

Recognizing the special vulnerability of GE Mark I & II Boiling Water Reactors to terrorist attack and the severe consequences that may result, the 2.206 Petition requested that the NRC take the following actions.

- 1. Issue a Demand for Action to the licensees of Mark I and Mark II BWR's and conduct a 6 month study of options for addressing structural vulnerabilities;
- 2. Present findings of the study at a national conference attended by all interested stakeholders, providing for transcribed comments and questions;
- Within 12 months develop a comprehensive plan that accounts for stakeholder concerns and addresses structural vulnerabilities of Mark I and Mark II BWRs;
- 4. Issues orders to the licensees for Mark I and Mark II BWRs compelling incorporation of a comprehensive set of protective measures, including structural protective measures;
- 5. Make future operation of Mark I and Mark II BWRs contingent on licensees addressing their structural vulnerabilities with the participation and oversight of a panel of local stakeholders.

Essentially the requested actions fall into two categories: (1) a request to identify and address the structural vulnerabilities of BWR Mark I and Mark II spent fuel pools; and (2) to allow increased public/stakeholder participation in the process.

Each point raised by the Petitioners in the discussion below is supported by the National Academy; yet it is dismissed by NRC.

1. Request To Identify And Address The Structural Vulnerabilities BWR Mark I & Mark II Spent Fuel Pools

The NRC response to the first request denied that nuclear reactors were vulnerable; that BWR Mark I and Mark II BWRs were vulnerable; and that the consequences of an attack would be severe. Further, NRC treated all reactors generically whereas the Petitioners requested that each reactor be evaluated and treated separately.

NRC's June 29th Proposed Petition denial is contradicted by our nation's top scientists;³ elected officials;⁴ the press;⁵ and NRC's own documents.⁶ **Vulnerability Reactors to Terrorist Attack**

The Petitioners stated that nuclear reactors are terrorist targets and vulnerable to attack. NRC denied this; however, the National Academy of Sciences (NAS) referenced report supports the petitioners.

NAS stated,

- Terrorists view nuclear power plant facilities as desirable targets because of the large inventories of radionuclides they contain. The committee believes that knowledgeable terrorists might choose to attack spent fuel pools because: (1) at U.S. commercial nuclear power plants, these pools are less well protected structurally than reactor cores; (2) they typically contain inventories of medium – and long-lived radionuclides that are several times greater than those in individual reactor cores. NAS p. 36
- A loss-of-pool-coolant event resulting from damage or collapse of the pool could have severe consequences. Severe damage of the pool wall could potentially result from several types of terrorist attacks, for instance: (1) Attacks with large civilian aircraft; (2) Attacks with high-energy weapon; Attacks with explosive charges. NAS p. 49

Further, NAS pointed out that neither licensees nor the NRC view it as their responsibility to prevent terrorist attacks. Without a clear mandate, the monies will not be spent and the job left undone.

- Staff from the NRC and representatives from the nuclear industry repeatedly told the committee that they **view detecting, preventing, and thwarting such attacks as the federal government's responsibility**." NAS p. 47
- To the committee's knowledge, there are **currently no requirements in** place to defend against the kinds of larger-scale, premeditated, skillful attacks that were carried out on September 11, 200. NAS p. 47

Special Vulnerability BWR Mark I & Mark II

³ Examples: National Academy of Sciences ,Safety & Security of Commercial Spent Nuclear Fuel Storage Public Report,, April 2005; <u>Reducing the Hazards from Stored Spent Power-Reactor</u> <u>Fuel in the United States</u>, (with Robert Alvarez, Jan Beyea, Klaus Janberg, Jungmin Kang, Ed Lyman, Allison MacFarlane, Gordon Thompson) Science & Global Security, Vol. 11, No.1, (2003).

⁴ Examples: Senator Hilary Clinton, Congressman Ed Markey; Attorney Generals from Arizona, Arkansas, California, Colorado, Connecticut, Georgia, Hawaii, Iowa, Maryland, Massachusetts, Michigan. Minnesota, Mississippi, Montana, Nevada, New Jersey, New Mexico, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, Vermont, West Virginia, Washington, Wisconsin – Communication to Congress, October 2002 requested measures to "... enhance protections for one of the most vulnerable components of a nuclear power plant—its spent fuel pools."

⁵ Example: Time Magazine, June 12, 2005, *Are These Towers Safe? Why America's nuclear plants are still so vulnerable to terrorist attack---and how to make them safer -* A special Investigation by Mark Thompson

⁶ Examples: NUREG-1738; Spent Fuel Heatup Following Loss of Water During Storage by Allen Benjamen et al. (Sandia National Laboratory, NUREG/CR-0649, SAND77-1371, 1979).

The Petitioners stated that GE Mark I and Mark II Boiling Water Reactors are especially vulnerable to attack because they are located at the top of the reactor building, outside primary containment. The National Academy of Sciences agrees.

NAS stated,

- The spent fuel pool, (GE Mark I BWR reactors) is located in the reactor building well above ground level. Most designs have thin steel superstructures. The superstructures and pools were not, however, specifically designed to resist terrorist attack." NAS p. 41
- "The vulnerability of a spent fuel pool to terrorist attack depends in part on its location with respect to ground level as well as its construction. Pools are potentially susceptible to attacks from above or the sides depending on their elevation" NAS p. 43

Prior to the National Academy Report, independent scientists from our leading universities came to the same conclusion.⁷

Site Specific Analysis Needed

The Petitioners stated that nuclear reactors are unique in structure, location and their attractiveness to terrorists as targets and thereby site specific or plant-byplant analysis was required. Their contentions are refuted by NRC but supported, for example, by the National Academy of Sciences (NAS).

NAS stated:

NAS stated that because vulnerability is plant specific, the committee recommended that plant-by-plant vulnerability analyses be performed.

Finding 3 D: The potential vulnerabilities of spent fuel pools to terrorist attacks are plant-design specific. Therefore specific vulnerabilities can only be understood by examining the characteristics of spent fuel storage at each plant. As described in the classified report, there are substantial differences in the designs of PWR and BWR spent fuel pools. PWR pools tend to be located near or below grade, whereas BWR pools typically are located well above grade but are protected by exterior walls and other structures. In addition, there are plant-specific differences among BWRs and PWRs that would increase or decrease the vulnerabilities of the pools to various kinds of terrorist attacks, making generic conclusions difficult. p.6, 58

After the NRC denied the petition on June 29, 2005, they reversed course and announced that they will perform site specific analyses.

Consequences of an Attack

The Petitioners stated that because the consequences of a successful attack on a spent fuel pool are so severe measures to reduce vulnerability must be a top national security concern.

The NRC denied the claim and stated,

NRC studies to date indicate that significant releases of radioactive material due to a terrorist attack on a spent fuel pool are unlikely. NRC p.10

⁷ <u>Reducing the Hazards from Stored Spent Power-Reactor Fuel in the United States</u>, (with Robert Alvarez, Jan Beyea, Klaus Janberg, Jungmin Kang, Ed Lyman, Allison MacFarlane, Gordon Thompson) Science & Global Security, Vol. 11, No.1, (2003)

The National Academy of Sciences (NAS) described what would happen if a terrorist attack on the spent fuel pool leads to a zirconium cladding fire.

NAS stated that,

- Such (zirconium cladding) fires would create thermal plumes that could potentially transport radioactive aerosols hundreds of miles downwind under appropriate atmospheric conditions. NAS p.50
- The excess cancer estimates ...to between 2,000 and 6,000 cancer deaths. NAS p. 45

NRC's own documents contradict NRC's current position, too.

- NUREG 1738 (2001), a technical study of spent fuel accident risk, performed for the NRC by Sandia Lab, clearly stated that a catastrophic meltdown in the spent fuel pool of a nuclear power plant could cause fatal, radiation-induced cancer in thousands of people as far as 500 miles from the site. The report was pulled from the NRC's public database following the Sept. 11, 2001, terrorist attacks because, agency spokesman Neil Sheehan said, "if a terrorist decided to attack any plant in the U.S., not just Indian Point, that is information about what fatalities it could cause, and the exact knowledge of that could be very advantageous to them." The information was returned to the database in April, however, because it is an official regulation governing spent fuel pool operations and must be accessible to plant operators.
- NUREG/CR-0649, SAND77-1371, 1979: And an even earlier 1979 NRC study done for the NRC by the Sandia National Laboratory showed that, in case of sudden loss of water in a pool, dense-packed fuel, even a year after discharge, would likely heat up to the point where its zircoloy cladding would burst and then catch fire.⁸

2. Request to Allow Increased Public/Stakeholder Participation In Review Process

The NRC denied the second request to allow stakeholder participation by hiding behind the excuse that information requested was either safeguards or national security information.

NRC stated,

Since the information which the Petitioner wishes to discuss 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. NRC p. 8

Again, the Petitioner's request is supported by the National Academy's Report on spent fuel vulnerability. In the report the Academy stated that the NRCs secrecy undermines public safety; and inclusion of the public is essential.

NAS stated,

⁸ Spent Fuel Heatup Following Loss of Water During Storage by Allen Benjamen et al. (Sandia National Laboratory, NUREG/CR-0649, SAND77-1371, 1979), fig.14.

- "Finding 5A: Security restrictions on sharing of information and analyses are hindering progress in addressing potential vulnerabilities of spent fuel storage to terrorist attacks." NAS p.8
- "The ... public is an important audience for the work being carried out to assess and mitigate vulnerabilities to spent fuel storage facilities. While it is inappropriate to share all information publicly, more constructive interaction with the public and independent analysts could improve the work being carried out, and also increase confidence in the nuclear regulatory Commission and industry decisions and actions to reduce the vulnerability of spent fuel storage to terrorist threats" NAS p. 9

Further, as stated in the Petition, NRC regulations already contain provisions whereby, in the context of nuclear licensing proceedings, interveners' designated representatives can have access to safeguards information.

Point-by Point Discussion

A. Security at Nuclear Reactors

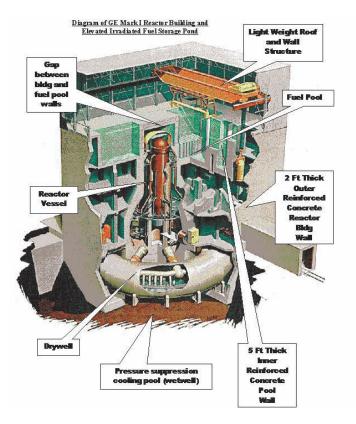
1. <u>NRC: "Nuclear plants incorporate structural features to protect against</u> <u>severe external events such as tornadoes</u>, hurricanes, fires and floods. These structural features, supported by the deployment of effective and visible physical protection measures, provide a deterrent to terrorist activity." NRC p.5

<u>Response</u>: Terrorist attacks are very different from hurricanes and other natural phenomena.

Nuclear reactors were not designed to defend against intentional terrorist attacks. National Academy Report stated,

- Staff from the NRC and representatives from the nuclear industry repeatedly told the committee that they view detecting, preventing, and thwarting such attacks as the federal government's responsibility." p. 47.
- To the committee's knowledge, there are currently no requirements in place to defend against the kinds of larger-scale, premeditated, skillful attacks that were carried out on September 11, 2001, p.47.

The Petitioners discuss (page 16) a U.S. Laboratory has developed, and described in a published report found on the web, a shaped-charge warhead specifically intended to penetrate large thicknesses of rock or concrete. The warhead would be mounted in the nose of a cruise missile. The warhead has a diameter of 28 inches and a length of 28.5 inches. It weighs 900 pounds and contains 600 pounds of Octol explosive. When tested in November 2002, this device created a hole of 10 inches diameter in tuff rock to the depth of 19.5 feet. The external walls surrounding the spent fuel pool are approximately 2 feet thick and the roof is light weight.



2. <u>NRC: "With respect to a terrorist **attack by air**, Federal efforts have increased <u>substantially since September 11, 2001</u>. Those efforts include enhanced airline passenger and baggage screening, strengthened cockpit doors, and the Federal Air Marshall's program, among others." P.5</u>

Response:

NAS stated that,

A loss-of-pool-coolant event resulting from damage or collapse of the pool could have severe consequences. Severe damage of the pool wall could potentially result from several types of terrorist attacks, for instance: (1) Attacks with large civilian aircraft; (2) Attacks with high-energy weapon; Attacks with explosive charges. NAS p. 49

Further, as the Petition describes (p. 14) these actions do not address the vulnerability to an air attack from general aviation. General aviation pilots are not screened before takeoff and the contents of general aviation planes are not screened at any point. General aviation includes more than 200,000 privately owned planes, which are located in every state at more than 19,000 airports. Over 550 of these airports also provide commercial service. In the last five years, the GAO reported about 70 aircraft stolen from general aviation airports, indicating a weakness that could be exploited by terrorists.

NRC avoids discussing the potential threat of airplanes departing from foreign airports that may have lesser security requirements.

NRC avoids the threat posed by small planes loaded with explosives.

The most common light aircraft in the U.S. is the Cessna Skyhawk. It can travel 687 miles, can carry 675 pounds, evade radar and deliver its payload with pinpoint accuracy. Similarly, a Tomahawk Cruise Missile is a precision weapon that can hug the earth, evade radar, travel 600 miles, and deliver up to 1,000 pounds of high

explosive. Hence these general aviation aircraft, with a suicidal terrorist and hundreds of pounds of explosives can be used as a poor person's Cruise missile.

The FBI has reportedly been concerned about a scenario involving two light planes striking a nuclear plant – one after another. NRC fails to mention this, too.

NRC sites military protection. However, to use Pilgrim as an example, the two interceptor jets at Otis Airbase require a 10 minute mobilization time – likely to arrive and intercept too late. Otis is responsible for the Northeast so that they may not even be at Otis

NRC's own study from 1982 stated an aircraft impact could "obliterate the reactor's primary core containment," release massive amounts of radiation, and kill thousands of people without any chance of evacuation. Control rooms, cooling pools filled with spent fuel rods, and other vital targets are even more vulnerable than the reactor itself.

Neither the reactor building, control room nor spent fuel pool are designed to withstand aircraft impacts or explosive forces. A large plane – or a light aircraft packed with high explosive – could do extensive enough damage to the pools to drain cooling water, causing the high-level waste to ignite and release lethal radioactive cesium over thousands of square miles.

3<u>. NRC: "Nuclear licensees have well established **emergency procedures** and <u>severe accident management guidelines</u> that provide a means to help mitigate the potential consequences of a terrorist attack should they occur." P.6</u>

<u>Response</u>: The fact that NRC is holding a conference in Washington August 31, 2005 on potential security-related and other enhancements to our emergency planning regulatory framework to respond to a terror attack indicates a recognition that the climate is different and emergency procedures for a terrorist attack need upgrades.

The response does not differentiate between onsite and offsite emergency preparedness.

Onsite preparedness: The NRC wrote to the licensees on July 18, 2005 - NRC Bulletin 2005-02 – indicating needed upgrades for a terror attack. In the cover letter to licensees, NRC states that, "...*recognized that security events differ from an accident-initiated events....the bulletin conveys that a security-based event may introduce the need to relay information or protect personnel in a manner different from events for which licensees and offsite response organizations typically plan and train.*" P. 2 and, "C. Onsite Protective Measures...other actions may be more appropriate for a terrorist attack, particularly an aircraft attack." p. 3

Off site plans and procedures are written to deal with a slow breaking accident of minimal consequence –not a terrorist scenario.

<u>Regarding NRC's claim for having procedures "to help mitigate the potential</u> <u>consequences of a terrorist attack</u>"

There are no real plans or procedures to deal with a potential catastrophe of major consequence. The National Academy's Report stated that,

• Such (zirconium cladding) fires would create thermal plumes that could potentially transport radioactive aerosols hundreds of miles downwind under appropriate atmospheric conditions p. 50

• The excess cancer estimates ...to between 2,000 and 6,000 cancer deaths... p. 45

4. <u>NRC: "With respect to spent fuel storage....the NRC completed detailed structural</u> <u>assessments at two spent fuel pools</u>, the results of which indicate that significant releases of radioactivity due to a terrorist attack on a SFP are very unlikely." P. 6

<u>Response</u>: Important information is not provided in NRC's response and should be provided to the Petitioners.

- What spent fuel pools were analyzed; were any located in BWR Mark I and Mark II reactors?
- Did the National Academy see the studies while preparing their report?
- Did any independent body review the studies, if so who?
- Did any elected representative from a state that hosts a BWR Mark I and Mark II reactor review the study; and if not will Attorney Generals, for example, from host states be allowed to review the referenced studies?

5. <u>NRC: "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)". P.6</u>

<u>Response</u>: 9/11 occurred nearly four years ago; President Bush stated in the State of the Union address 2002 that nuclear reactors were known targets; the terrorist threat exists today; it is not reasonable to postpone action until further study to confirm what we already know from respected and esteemed experts and continue to rely on luck – it just might run out.

B. Options Exist to Reduce Vulnerability

The NRC denies there is a problem; therefore they do not explore options to reduce risk, or comment on those offered in the Petition.

However, the Petitioners describe four categories of defensive measures that could provide stronger defense for Mark I and Mark II BWRs – site security, facility robustness, damage control, and emergency response planning upgrades.

The National Academy's spent fuel vulnerability report also describes steps that should be taken immediately to reduce risk; and, although they were not tasked to analyze solutions, steps recommended in the report support the Petitioners.

NAS stated that,

In the committee's opinion, there are several, relatively simple steps that could be taken to reduce the likelihood of releases of radioactive material from dry casks in the event of a terrorist attack.

- Additional surveillance could be added to dry cask storage facilities to detect and thwart ground attacks.
- Certain types of cask systems could be protected against aircraft strikes by partial earthen berms. Such berms also would deflect the blasts from vehicle bombs.
- Visual barriers could be placed around storage pads to prevent targeting of individual casks by aircraft or standoff weapons. These would have to be

designed so that they would not trap jet fuel in the event of an aircraft attack.

- The spacing of vertical casks on the storage pads can be changed, or spacers (shims) can be placed between the casks, to reduce the likelihood of cask-to-cask interactions in the event of an aircraft attack.
- Relatively minor changes in the design of newly manufactured casks could be made to improve their resistance to certain types of attack scenarios NAS p.68

C. The NRC failed to respond to a request for answers to specific questions

-no rationale was provided in the response for why they did not provide the information; it was simply ignored. This conflicts with NUREG/BR-0200, Rev. 5,

A decision denying a petition, in full, provides the reason for the denial and discusses all matters raised in the petition.

The demand for information will require licensees to provide answers to the following questions:

- 1. What is the current licensed capacity and inventory for spent fuel storage in the spent fuel pool?
- 2. What is the projected number of spent fuel pool 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 to ten years?
- 5. What is the water volume of the spent fuel pool?
- 6. What is the design heat removal capacity of the spent fuel pool cooling system?
- 7. Is the facility licensed for onsite dry storage of spent fuel? If so, how many spent fuel assemblies are currently in dry storage?
- 8. What are the results from studies, evaluations, and/or analyses conducted on the vulnerability of the spent fuel pool to (1) aircraft, (b) tornado-generated missiles, and (c) fires?

D. NRC dismisses the NAS report by referring to a letter written by Chairman Nils Diaz to Senator Pete Domenici, dated March 14. In that letter, NRC stated that, "There are a number of areas of NRC disagreement with the NAS report; some scenarios postulated by the NAS are unreasonable; and Some NAS recommendations lack a sound technical basis."

Congress mandated the National Academy of Sciences to do a study of the vulnerability of spent fuel storage at commercial nuclear reactors; and the National Academy's Report supported our contentions. Now it is the decision of the National Academy that should be presumed to be correct, and its report was issued well before NRC issued the Proposed Denial to our Petition.

Because of the Congressional mandate, the NRC (and not the public) has the burden of proving that the NAS conclusions were wrong and by extension that our conclusions are wrong. It is now the NAS conclusion, and not that of the NRC that is entitled to the presumption of correctness. Now it is the NRC, and not the public, that has the burden of proof. In short, the NRC is now outside the group that is entitled to the presumption of administrative correctness – shoe is on the other foot.

In short, the NRC cannot simply say that it "disagrees" with the NAS conclusion or by extension our conclusions. Rather, the NRC has the burden of proof that NAS,

and by extension our contentions that are supported by NAS, not only reached a conclusion with which the NRC disagrees, but that no reasonable person could have reached the same conclusions as did NAS.

Submitted on behalf of Pilgrim Watch, member Nuclear Security Coalition, by

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