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Ms Annette Vietti-Cook
Secretary of the Commission
U.S. Nuclear Regulatory Commission
ATTN: Rulemakings and Adjudications Staff
Washington, DC 20555-0001

**NUCLEAR REGULATORY COMMISSION PROPOSED RULING - PHYSICAL
PROTECTION OF IRRADIATED REACTOR FUEL IN TRANSIT; COMMENTS ON;
DOCKET ID NRC-2009-0163**

- Reference:
- (a) EIS-0203F, Department of Energy Final Environmental Impact Statement for Programmatic Spent Nuclear Fuel Management and INEL Environmental Restoration and Waste Management Programs, April 1995
 - (b) EIS-0251, Department of the Navy Final Environmental Impact Statement for a Container System for Management of Naval Spent Nuclear Fuel, November 1996

Background

a. This letter provides Naval Reactors' comments in response to the proposed Nuclear Regulatory Commission (NRC) ruling on physical protection of irradiated reactor fuel in transit, published in the Federal Register (75 FR 62695) on October 13, 2010. The proposed ruling would revise Title 10, Code of Federal Regulations, Part 73, "Physical Protection of Plants and Materials," to incorporate a number of security requirements for shipments of irradiated reactor fuel.

b. The Naval Reactors Program is responsible for shipments of spent nuclear fuel removed from U.S. Navy warships and prototype training reactors. Since 1957, Naval Reactors has safely shipped over 800 containers of naval spent nuclear fuel by rail. In the more than 1.5 million miles cumulatively traveled by these shipments, there have been no injuries to members of the public, no releases of radioactivity to the environment, and no occurrences of acts of terrorism or

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sabotage. Although Naval Reactors' shipments are not regulated by the NRC, we are cognizant of our need to protect public safety, and we strive to ensure our procedures are consistent with those required of NRC licensees to the extent that the circumstances are consistent.

c. The comments herein are in response to two specific aspects of the proposed ruling:

(1) The NRC is proposing that shipment escorts delay or impede attempted acts of theft, diversion, or radiological sabotage by using force sufficient to counter the force directed at the escorts.

(2) The NRC is proposing an access authorization program requiring extensive background checks for personnel being granted unescorted access to a shipment or whose duties and responsibilities permit the individual to take actions by physical or electronic means that could adversely impact the safety, security, or emergency response to a shipment, (e.g., vehicle drivers and movement control personnel).

Discussion

a. Requirements For Escort Actions

(1) The proposed NRC requirement for escorts to delay or impede attempted acts of theft, diversion, or radiological sabotage could be interpreted as requiring escorts to assume an offensive combatant role and aggressively defend the shipment, regardless of the characteristics of the threat or the shipment and regardless of the threat to the escorts' safety.

(2) We believe this interpretation would be inappropriate in consideration of the minimal risk to public health and safety from attempted acts of theft, diversion, or radiological sabotage of robust Type B spent fuel shipping containers in comparison to the risk to escort personnel whose standing orders require proactive engagement of any suspected security threats. The risk to the escorts and response forces could quickly become much greater than the risk to public health and safety, owing to the safety inherent to Type B spent fuel containers. The domestic security environment has unquestionably changed since September 11, 2001, perhaps increasing the chance of an attempted theft, diversion, or

sabotage. However, Naval Reactors believes that the consequence of any such attempt on a Type B spent fuel shipping container remains low.

(3) In the discussion of the proposed rule in the Federal Register, the NRC provides no technical basis for concluding that attempted theft, diversion, or sabotage could result in public health and safety consequences that warrant such an aggressive security role from the escorts. Naval Reactors has evaluated the risks associated with transportation of naval spent nuclear fuel in two Environmental Impact Statements, references (a) and (b). The statements used well established transportation impact analysis methodology, and they included specific evaluations of the potential impacts of terrorist attacks using shaped charge weapons. The statements concluded that the impacts associated with terrorist attacks are bounded, with significant margin, by the impacts of transportation accidents.

b. Requirements for an Access Authorization Program

(1) The proposed NRC requirement for an access authorization program with requisite background checks could lead to significant operational and cost impacts from commercial carriers handling shipments. Carriers are already subject to basic personnel security measures in their hazardous materials security plans in accordance with Department of Transportation (DOT) regulations [49CFR172.802(a)(1)].

(2) The proposed NRC requirements go far beyond the current DOT requirements. We question whether the railroads' personnel policies would support such extensive security requirements. If not, the impact on shipment operations and the cost to institute such extensive personnel security requirements just for spent fuel shipments could be difficult to overcome.

(3) It is not clear that the security benefit gained from imposing such personnel security requirements on carriers is worth the cost. Other aspects of the proposed ruling will separately require that shipment escorts (1) are properly vetted for access authorization, (2) maintain continuous surveillance of the shipment, (3) are independent of the carrier's organization, and (4) have multiple communications capabilities to call for help in response to suspicious activity by anyone, including carrier personnel. Escorts for Naval Reactors

shipments currently meet all these new requirements, and we consider the requirements appropriate for the escorts.

(4) If these access authorization requirements are added to the regulations, railroads may decide to only perform the requisite background checks on a minimal number of their personnel. These circumstances could result in delaying shipments in transit if the authorized personnel needed to support the shipment become unavailable. Such a situation would increase the vulnerability of the shipment.

(5) Additionally, proposed section 10CFR73.38(c)(1) would require that individuals who are granted unescorted access to the shipment in transit be subject to the access authorization requirements. It is unclear how individuals could be granted unescorted access to the shipment in transit when section 10CFR73.37(b)(3)(vii)(C) would require that at least one shipment escort remain alert at all times and maintain constant visual surveillance of the shipment while in transit.

Naval Reactors Recommendations: Naval Reactors recommends the following changes to the proposed ruling on physical protection of irradiated reactor fuel in transit. Additions are in **bold** and deletions are in ~~strikethrough~~.

a. §73.37(a)(2)(ii): "Delay and impede attempts at theft, diversion, or radiological sabotage of spent nuclear fuel shipments **as appropriate considering threat characteristics, shipment characteristics, and the primary requirement for personnel to provide for their own safety until adequate response forces arrive**"

b. §73.37(b)(3)(i): "The physical protection system established under §73.37(a)(1) shall include armed escorts to ~~protect~~ **guard** spent nuclear fuel shipments and"

c. §73.37(b)(4)(iv)(D): "Take necessary steps to delay ~~or~~ **and** impede threats, thefts, or radiological sabotage of spent nuclear fuel **as appropriate considering threat characteristics, shipment characteristics, and the primary requirement for personnel to provide for their own safety until adequate response forces arrive, and**"

d. §73.38 would require extensive personnel background checks, above and beyond those already required by DOT

regulations, for personnel with access to or control over a shipment. Naval Reactors recommends that the NRC review the proposed personnel security requirements with rail and highway carriers and adjust the requirements as necessary to minimize operational and cost impact of the requirements.



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Naval Reactors

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