



NUCLEAR ENERGY INSTITUTE

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June 18, 2012

Mr. Douglas W. Weaver  
Deputy Director  
Division of Spent Fuel Storage and Transportation  
Office of Nuclear Materials Safety and Safeguard  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**Subject:** Response to Nuclear Regulatory Commission Letter Dated May 23, 2012 on Industry Position on Secondary Impact Considerations for Transportation Casks

**Project Number: 689**

Dear Mr. Weaver:

The Nuclear Energy Institute (NEI), together with the NEI Dry Cask Vendor Task Force and NEI Dry Storage Task Force, appreciates the Nuclear Regulatory Commission's (NRC) letter dated May 23, 2012<sup>1</sup> regarding secondary impacts during hypothetical transportation accidents. We believe the NRC's decision to refer this issue to the Generic Issues Program (GIP) and, as this issue is being evaluated via the GIP, to not require this issue be addressed during licensing reviews is appropriate. We look forward to engaging the NRC via the GIP toward the mutual goal of issue resolution.

We are also writing in response to the NRC's request for additional clarification of industry's comments.<sup>2</sup> Specifically, you asked for clarification on the potential risk for damaging fuel assemblies that could result from the NRC position communicated in Requests for Additional Information (RAIs) on several transportation cask applications.<sup>3</sup>

In our letter, we identified that the NRC has taken a position in its licensing reviews that has called for applicants to incorporate spacers into the design with increasingly smaller allowable gaps between the fuel and the lid. In order to respond to this position, applicants must analyze gaps that

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<sup>1</sup> "Response to Nuclear Energy Institute Letter Dated February 28, 2012, Regarding the Industry Position on Secondary Impact Considerations for Transportation Casks," NRC Letter from D. Weaver to NEI R. McCullum, May 23, 2012.

<sup>2</sup> "Industry Position on Secondary Impact Considerations for Transportation Casks," NEI Letter from R. McCullum to NRC D. Weaver, February 28, 2012.

<sup>3</sup> ML081640185, ML082260289, ML082760021, ML091420472, ML101680558, ML110910458.

exist in horizontal configurations to be assumed to create secondary impacts during hypothetical accident conditions. This analysis must also address numerous variables that affect the gap size, e.g. fabrication tolerances, radiation growth and thermal growth. When all of these factors are considered, the very small gaps required to comply with the NRC's position on secondary impacts results in a possibility of a new type of mispositioning event if a spacer is paired incorrectly with a fuel assembly. A potential mispositioning event could have consequences ranging from "none" to a maximum theoretical consequence of "fuel damage," e.g., to the structural components of guide tubes or nozzles.

We have not quantified the new or increased risks due to the NRC's position on secondary impacts. Our identification of the potential to damage a fuel assembly was not based upon any specific information, and was only intended to identify that there may be unintended consequences to the potential new regulatory position. It is important to fully consider the implications a new agency position prior to establishing it. We are confident that this will be accomplished through the GIP process.

Following your request, we discussed this issue with both vendor and utility members in the industry, although not through a formal survey. Our discussions did not identify any cases in which there was any suspected or known fuel damage resulting from cask loading involving spacers. Licensees and vendors use care in selecting fuel for loading, designing the spacer for the cask, loading casks, and closing the lid. The procedures they use have been successful in ensuring event-free dry cask loadings. We remain confident that worker and public health and safety are being protected in accordance with current regulations.

Again, we are pleased with the NRC's decision to address this issue through the GIP process and look forward to the opportunity for further dialogue on this issue as this process progresses. Please do not hesitate to contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rodney McCullum', with a stylized, cursive script.

Rodney McCullum

c: Ms. Jennifer L. Uhle, RES, NRC  
Mr. Scott W. Moore, NMSS, NRC  
Mr. Michael D. Waters, NMSS/DSFST/LB, NRC  
Mr. Steve R. Ruffin, NMSS/DSFST/LB, NRC  
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