NUCLEAR ENERGY INSTITUTE

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Mr. Kent A. L. Wood
Reactor Systems Engineer
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20005-0001

Subject: Nuclear Energy Institute Comments on Office of Nuclear Reactor Regulation Action Plan "On Site Spent Fuel Criticality Analysis" May 21, 2010

Project Number 689

Dear Mr. Wood:

The Nuclear Energy Institute (NEI),[1] on behalf of the nuclear energy industry, is pleased to comment on the U.S. Nuclear Regulatory Commission's (NRC) Office of Nuclear Reactor Regulation (NRR) Action Plan "On Site Spent Fuel Criticality Analysis." We commend the NRC for seeking stakeholder comments at regular intervals on this plan. By providing opportunities for stakeholder input, the NRC is helping to assure a sound and predictable regulatory framework.

We support the development of this plan, and we are hopeful that it will lead to a regulatory outcome in which criticality analyses submitted to NRC in support of license amendment requests can be reviewed in a consistent and timely manner with minimal requests for additional information (RAIs). It is the industry's expectation that the guidance resulting from this plan will enhance regulatory stability by harmonizing both licensee and reviewer expectations with the most up-to-date and appropriate methodologies.

[1] NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, nuclear material licensees, and other organizations and individuals involved in the nuclear energy industry.

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It is recognized that the state-of-the art for Spent Fuel Pool (SFP) criticality analysis is advancing. We therefore agree with the NRC that enhanced regulatory guidance is needed. However, it should also be recognized that a strong basis for assuring the safety of spent fuel pools remains in place and will continue to exist as this plan is being implemented. Assuring that such an understanding is appropriately reflected in the plan is one of the six main points that we emphasize in commenting on this plan. These points are as follows:

- The plan should reflect an appropriate balance between the need for enhanced guidance to address growing challenges in the area of SFP criticality analysis and the high confidence that exists in the safety of pools today. Attachment 1 provides our views on the robustness of the existing framework along with some specific edits that would make the language of this plan more balanced in this regard.
- The plan contains a number of specific elements that, if implemented in a timely and effective manner, will directly contribute to an improved regulatory framework for SFP criticality analysis. We have highlighted our endorsement of these elements in Attachment 2. This attachment also includes a number of detailed comments that should be incorporated to improve the utility of this plan.
- The plan should be comprehensive and maintained as up-to-date as possible in terms of encompassing all actions that the NRC intends to take in the area of SFP criticality analysis. In this regard, we understand that the NRC intends to issue an information notice in this area in the near future. This information notice should be reflected in the plan, and the plan should be updated and provided to industry whenever similar activities arise. Similarly, the plan should be revised to remove references to recent past events since these will be less reflective of the ongoing situation as progress is made. Removing such references will also contribute to the plan's utility as a living document.
- The Interim Staff Guidance (DSS-ISG-2010-01) being developed in accordance with this plan should be subject to review by the NRC's Advisory Committee on Reactor Safeguards (ACRS). Such review would be consistent with the process followed by NRC-NMSS's Division of Spent Fuel Storage and Transportation for the ISG's that it has issued and would provide a valuable element of independent review to the process. Accordingly, ACRS review should be reflected in this plan.
- The plan should be revised to include an evaluation of the EPRI report on the reactivity change of depletion and a comparative review of this approach in conjunction with the efforts underway at Oak Ridge National Laboratory. This will assure that independent scientific and technical views are appropriately considered.

- The plan, on page 3, discusses examples of how criticality and storage controls are becoming more complex. However, as noted in NEI's comment number 3 on draft DSS-ISG-2010-01,[2] many of the items mentioned in this paragraph are not recent developments and have been in use for many years. Once the ISG has been revised in response to our prior comments, the plan should be revised accordingly.

We look forward to continued interactions with the NRC staff as we strive toward our mutual goal of a spent fuel pool regulatory framework that is stable, predictable, efficient, and capable of addressing all future challenges to the performance of SFP criticality analysis. If you have any questions, please do not hesitate to contact me.

Sincerely,

Rod McCullum

Attachments

c: Mr. William H. Ruland, NRR/DSS, NRC
Mr. Sher Bahadur, NRR/DSS, NRC
Mr. Anthony P. Ulses, NRR/DSS/SRXB, NRC
NRC Document Control Desk
NEI Spent Fuel Pool Criticality Task Force

[2] Letter dated October 1, 2010, Everett L. Redmond II to Cindy K. Blakely, Nuclear Energy Institute Comments on Draft Division of Safety Systems Interim Staff Guidance DSS-ISG-2010-01, "Staff Guidance Regarding the Nuclear Criticality Safety Analysis for Spent Fuel Pools," 75 Federal Register 53724, September 1, 2010, Docket ID NRC-2010-0289