UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899-

April 26, 2016

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: NRC Generic Letter 2016-01: Monitoring of Neutron Absorbing Materials in Spent Fuel Pools

Ref: Docket 50-184

Dear Sirs/Madams:

In response to the above noted Generic Letter, the NIST Reactor (NBSR) offers the following information, as requested:

(1) *Are neutron-absorbing materials used in a reactor pool, fuel storage pool, or other wet locations designed for the storage of reactor or spent fuel?*
Answer: The NBSR fuel storage pool is designed with fuel storage racks which contain borated aluminum, used as a neutron absorbing material.

(2) *If neutron-absorbing materials are used, is their use credited in the licensing or design basis (i.e., criticality safety analysis) for the storage of reactor fuel or spent fuel in a reactor pool, fuel storage pool, or other wet locations, as applicable?*
Answer: No credit is taken for the neutron absorbing material in the NCNR criticality safety analyses. Analyses (NBSR ECN 553) have shown that an infinite plane of fully loaded containers with fresh NBSR fuel and no boron present would have a maximum $k_{\infty,xy}$ of 0.857.

(3) *If neutron absorbing materials are credited in the facility licensing or design basis for the storage of reactor or spent fuel in a reactor pool, fuel storage pool, or other wet locations, as applicable, then provide a description of, and technical basis for, any surveillance or monitoring programs used to confirm continued acceptable performance of the neutron-absorbing materials over time.*
Answer: As stated above, no credit is taken for the presence of neutron absorbing material. However, the NBSR does perform periodic visual surveillance of the fuel storage facility to check for degradation.

ADD!
NRR

NIST

If you have any questions concerning this response, please contact Dr. Thomas Newton at (301) 975-6260 or at thomas.newton@nist.gov.

Sincerely,

Rob Dimeo, Director
NIST Center for Neutron Research

I certify under penalty of perjury that the following is true and correct.

_____ **Executed on April 26, 2016**

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