

August 25, 2003

EA 03-148

Michael J. Meisner, Chief Nuclear Officer  
Maine Yankee Atomic Power Company  
321 Old Ferry Road  
Wiscasset, ME 04578-4922

SUBJECT: RESPONSE TO DISPUTED VIOLATION REGARDING THE IMPROPER  
PERFORMANCE OF A 10 CFR 72.48 SAFETY REVIEW FOR THE DRY CASK  
STORAGE SYSTEM IN USE AT MAINE YANKEE

Dear Mr. Meisner:

This letter refers to your correspondence dated July 16, 2003, in reply to our June 24, 2003 letter with enclosed inspection report and Notice of Violation (Notice). The violation in the Notice was associated with the inappropriate implementation of a 10 CFR 72.48 safety evaluation for your discovery of a change in the spent fuel storage cask design as described in your Final Safety Analysis Report (FSAR) and Certificate of Compliance (CoC) specifications. Specifically, the Notice was issued because 1) your staff discovered an unanticipated condition (de facto change) in which the bearing surfaces of vertical concrete casks (VCCs) were covered with a significant amount (80 - 95%) of ice during sub-freezing temperatures, indicating that the coefficient of friction (COF) between the concrete cask and ISFSI pad was indeterminate or less than the CoC COF requirement of 0.5; and 2) although your staff performed a 10 CFR 72.48 analysis to determine whether this unanticipated condition may have placed you outside your CoC specifications, your staff implemented a change to your facility's FSAR that was not authorized under 10 CFR 72.48.

In your reply, you denied the violation and based your denial on your evaluation of the safety significance of iced conditions as well as the license basis changes for the FSAR and Technical Specifications. With regard to safety significance, you contended that the presence of ice should not be assumed to imply that the effective COF between the VCC and ISFSI pad would be less. You stated that a "frozen bond between the VCC/ice/pad and the substantial buildup of a ridge of ice around the outer diameter of the VCCs could significantly retard motion during a seismic event, leading to an 'effective' coefficient of friction well in excess of that demonstrated for the VCC/concrete pad." However, the presence of ice in significant quantities between the VCC and the ISFSI pad renders the COF between the VCC and the ISFSI pad to be indeterminate, and without empirical data, the COF may decrease in some instances (e.g., ice build-up or ice melting).

You also stated that there was significant industry-generated data that demonstrated that VCC sliding during a seismic event would be minor, would not lead to impact with another VCC or a VCC tip-over, and the event was bounded by previous analyses (e.g, tip-over ), and therefore would not present any public health and safety concerns. We note that (1) the presence of ice was not factored into the studies used to generate the industry data that you cited; (2) impact with another VCC has not been analyzed; and (3) although you stated that your analysis shows a tip-over event does not result in a public health and safety concern, the argument is not relevant because the violation addressed the incorrect use of the 10 CFR 72.48 process.

With regard to license basis changes, you stated that Technical Specification B.3.4.2.6 was explicitly based on the direct contact between the VCC and ISFSI pad, indicating that the evaluation has not changed and remains true. However, Technical Specification B.3.4.2.6 is explicit in that the VCC and ISFSI pad must remain in direct contact, and the presence of a significant amount of any foreign material that interrupts this contact, could clearly cause the fuel cask storage system to be outside of compliance with Technical Specification B.3.4.2.6.

Technical Specification B.3.4.2.6 requires verification through physical testing to demonstrate that the coefficient of friction between the concrete cask and the ISFSI pad surface is at least 0.5. The presence of ice between the surface of the VCC and the ISFSI pad represents a de facto change to Technical Specification B.3.4.2.6 because it 1) causes a loss of required contact between the VCC and the ISFSI pad, and 2) renders previous test results insufficient to demonstrate that you could achieve a COF greater than 0.5. Once this de facto change occurred, your options were to correct and prevent the condition, or to seek a CoC amendment. There is nothing in either the Commission's "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors," or the regulations, that allow a licensee to grant their own changes to Technical Specifications. In your own evaluation of the safety significance, you stated that "the icing led to indeterminate coefficients of friction between the VCC and the ice, and between the ice and the concrete pad." That condition takes you out of compliance with the Technical Specifications and is part of the basis for the violation.

Upon reconsideration and consultation with the NRC Spent Fuel Project Office, Office of Enforcement, Office of General Counsel, and Office of Nuclear Reactor Regulation, we have determined that this cited violation is valid and requires corrective action to prevent recurrence. You must take the necessary corrective measures to resolve this violation in accordance with applicable regulatory requirements. You are also required to respond to this letter within 30 days and should follow the instructions specified in our June 24, 2003 letter and Notice, when preparing your response. In particular, you should include the reason for the violation and the corrective steps you have taken to avoid future violations. After reviewing your response to the Notice, the NRC will determine whether further enforcement action is necessary to ensure compliance with regulatory requirements. Potential further enforcement action could include a Notice of Violation with Proposed Civil Penalty or an Order.

The violation was evaluated in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600. The current Enforcement Policy is included on the NRC's Web site at [www.nrc.gov](http://www.nrc.gov). [select **What We Do, Enforcement**, then **Enforcement Policy**].

Mr. Michael J. Meisner

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In accordance with Section 2.790 of the NRC's "Rules and Practices," Part 2, Title 10, Code of Federal Regulations (CFR), we will place a copy of this letter in the NRC Public Document Room (PDR) and will make it accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html>.

Sincerely,

*/RA/*

George Pangburn, Director  
Division of Nuclear Materials Safety

Docket No. 05000309  
Docket No. 07200030  
License No. DPR-36

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Mr. Michael J. Meisner

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\*Concurrence from OE through telecon with G. Morrel on 8/21/03

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