

September 25, 2007

The Honorable Patrick Leahy  
United States Senate  
Washington, D.C. 20510

Dear Senator Leahy:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter of August 23, 2007, concerning the collapse of a portion of a non safety-related cooling tower cell at the Vermont Yankee Nuclear Power Station. You expressed concern about the cause of the structural failure of a non safety-related cell in the cooling tower, especially as it relates to the operation of the safety-related cell. You requested that the NRC conduct an investigation to determine if the safety-related cell was affected. You also asked the NRC to examine the remaining towers and institute precautions to prevent further structural failures. Finally, you requested an evaluation of any past preventive actions related to the safe operation of all of the cooling towers.

There are two cooling towers at Vermont Yankee; each tower contains 11 cells. The non safety function of the cooling towers is to reduce the temperature of the water used to cool the plant before it is returned to the Connecticut River. Only one cell (cell 2-1) is safety-related. The safety-related function of cell 2-1 is to provide an alternate means to remove reactor heat following a plant shutdown in the unlikely event that the normal heat removal system becomes unavailable. Adjacent cell 2-2 is not safety-related, but is structurally robust and is designed to physically separate and protect cell 2-1. The cell that partially collapsed is cell 2-4.

Entergy is performing root cause and extent-of-condition assessments for the failed cell. Entergy's preliminary determination is that the collapse was the result of several factors, including "iron salt formation and fungal attack." Although Entergy has found similar degraded conditions in other non safety cells, the operability of cells 2-1 and 2-2 is not in question. Entergy is continuing its investigation of the event, which includes a formal root cause analysis.

The NRC resident inspectors who are permanently assigned to the Vermont Yankee site have been continuously following the licensee's actions from the time the collapse occurred. The resident inspectors, as well as a structural expert from the NRC's headquarters office, have independently inspected the exterior of the cooling towers and accessible portions of the internal structure. The NRC concluded that both cells 2-1 and 2-2 appear to be in good condition. The NRC has also independently verified the continued ability of cell 2-1 to perform its safety-related function.

The NRC will continue to monitor the licensee's actions, including review of their formal root cause analysis report and extent-of-condition assessment, as well as the adequacy of corrective actions. The NRC's review of the root cause analysis will be documented in an inspection report which will be made available to the public.

With respect to any past preventive actions, Entergy has inspected the cooling towers semi-annually, replacing deteriorated components as deemed necessary. Entergy most recently conducted the semi-annual inspection of both cooling towers in the spring of 2007. No significant issues were identified with cell 2-4. The adequacy and thoroughness of Entergy's past inspections are currently under NRC review.

The NRC inspected the safety-related portion of the cooling towers (cell 2-1) in 2004, 2005, and 2006 as part of our baseline inspection program. Based on results of recent inspections by the NRC resident inspectors and the headquarters-based structural expert, and our evaluations of the licensee's investigation to date, the NRC considers the safety-related cell of the cooling tower to be operable and capable of performing its intended safety function.

The NRC is committed to independent, thorough, and objective inspections at all NRC-regulated facilities, including Vermont Yankee. The Commission believes that the level of oversight at Vermont Yankee is appropriate and that the scope and depth of NRC inspections and assessments are sufficient to ensure safe operations at Vermont Yankee.

Additionally, I want to assure you that the NRC will continue to oversee Entergy's actions to address technical issues and any potential safety impact at Vermont Yankee and will maintain openness for public involvement in the regulatory process. Thank you for your continued interest in safe operations at Vermont Yankee. If you have further questions, please feel free to contact me.

Sincerely,

*/RA/*

Dale E. Klein

Identical letter sent to:

The Honorable Patrick Leahy  
United States Senate  
Washington, D.C. 20510

The Honorable Bernard Sanders  
United States Senate  
Washington, D.C. 20510

The Honorable Peter Welch  
United States House of Representatives  
Washington, D.C. 20515