

October 31, 2007

The Honorable Edward M. Kennedy  
United States Senate  
Washington, D.C. 20510

Dear Senator Kennedy:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter of August 30, 2007, concerning the collapse of a portion of a cooling tower at the Vermont Yankee Nuclear Power Station. Although the portion of the cooling tower that collapsed has no safety related function to protect the reactor, I can understand how the photographs of the collapsed cell may be unsettling to the residents living near the plant. Even though the collapsed cell poses no safety concern, I want you to know the NRC is following up on this event to ensure that licensee practices that allowed this condition to occur in a non-safety related component do not propagate to any safety systems at the plant.

In your letter, you expressed concern about the cause of the collapse and its implications for the safe operation of the plant. There are two cooling towers at Vermont Yankee, each containing 11 cells. The non-safety related 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 of the cells (cell 2-1) has a safety related function. That function is to provide an alternate means to cool the reactor following a plant shutdown in the unlikely event that the normal cooling system becomes unavailable. Adjacent cell 2-2 does not have a safety related function, but is structurally robust and is designed to separate and protect cell 2-1 physically from the other non-safety related cells. The cell that partially collapsed is cell 2-4, which had no affect on cell 2-1.

With respect to your concern that the NRC had not committed to undertaking a thorough investigation of this event, the NRC resident inspectors assigned to the Vermont Yankee site, have been following Entergy's actions associated with this event from the day of the collapse. The resident inspectors, along with a structural expert from NRC's headquarters office, independently assessed the exterior of the cooling towers and accessible portions of the internal structure. Those inspections confirmed that both cells 2-1 and 2-2 appear to be in good condition and were not affected by the collapse of cell 2-4. The inspectors also independently verified the continued ability of cell 2-1 to perform its safety related function.

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 related cells, the operability of cells 2-1 and 2-2 is not in question. Entergy is continuing to investigate the event. The NRC will continue to monitor Entergy's actions, including review of their formal root cause analysis report and the extent-of-condition assessment, and will independently evaluate the adequacy of their corrective actions. The results of the NRC's inspection will be documented in a report that will be made available to the public.

You also requested that the NRC expand the investigation of this event to examine whether the extended power uprate approved by the NRC resulted in any additional plant-wide structural deficiencies. Power uprates are submitted to the NRC as license amendment requests. The applications and NRC's review are detailed and involve many technical disciplines within the NRC. The purpose of the review is to confirm that the plant can operate safely at the higher power level. Further, as part of the NRC baseline inspection program, NRC inspectors routinely examine safety-related structures, systems, and components, and perform daily reviews of equipment deficiency reports generated by the licensee to provide reasonable assurance that there are no plant-wide, safety-related structural deficiencies at Vermont Yankee. Finally, as noted above, the NRC will review Entergy's assessment of whether the root cause of this condition may be present elsewhere in the plant.

I want to assure you that the NRC will continue to oversee Entergy's actions in our efforts to ensure the continued safe and secure operation of Vermont Yankee. If you have further questions, please feel free to contact me.

Sincerely,

*/RA/*

Dale E. Klein

Identical letter sent to:

The Honorable Edward M. Kennedy  
United States Senate  
Washington, D.C. 20510

The Honorable John F. Kerry  
United States Senate  
Washington, D.C. 20510

The Honorable John W. Olver  
United States House of Representatives  
Washington, D.C. 20515