September 23, 2008

The Honorable Paul W. Hodes
United States House of Representatives
Washington, D.C. 20515

Dear Congressman Hodes:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter to Bruce S. Mallett of my staff dated September 4, 2008, in which you requested clarification with respect to past events at the Vermont Yankee Nuclear Power Station in Vernon, Vermont. Our detailed response to the three specific requests denoted in your letter is provided in Enclosure 1 to this letter. I have also enclosed NRC Bulletin 96-02 which is referenced in our response to your second request.

Should you have any further questions in this matter, please contact Ms. Rebecca L. Schmidt, Director, Office of Congressional Affairs, at (301) 415-1776.

Sincerely,

/RA/

R. W. Borchardt
Executive Director
for Operations

Enclosures:
1. Response to Questions
2. NRC Bulletin 96-02

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Response to Questions

Request 1:

You requested clarification of the NRC statement in our letter dated July 30th, where we explain that the NRC only has authority over safety-related operations at Vermont Yankee, including cooling cells 2-1 and 2-2. However, it is unclear which agency regulates the other 20 cooling cells, independent from their relation to cell 2-1 and 2-2. Your letter also requested information about who regulates the 'non-safety related' cells in the cooling towers.

NRC Response to Request 1:

In the interest of clarification, only cooling tower cell 2-1 performs a nuclear safety-related function; however, the adjacent non-safety cell 2-2 is designed to withstand a seismic event and is built identical to cell 2-1. Cell 2-2 provides a buffer between safety cell 2-1 and the remainder of the cells in the west cooling tower; thus the maintenance of the cells beyond Cell 2-1 and 2-2 is not critical to the safe shutdown of Vermont Yankee and thus is not governed by NRC regulations.

Please note that the cooling towers are one method of dissipating waste heat from the station, much like the radiator on your car, so that this thermal discharge does not raise the temperature of the Connecticut River to unacceptable environmental levels at certain times of the year. During parts of the year, the cooling towers are not used, but rather the heated water is returned directly to the Connecticut River because the returned water would not be above unacceptable environmental levels. A small part of the west cooling tower, which contains cell 2-1 among its 11 cells, also serves the function of allowing the plant to dissipate its limited waste heat following a reactor shutdown in the very rare event that the normal cooling water supply (i.e., service water from the Connecticut River) is lost for some reason.

Regarding the two structural failures experienced with the Vermont Yankee cooling towers, one in August 2007 and another in July 2008, these events did not have a safety impact but rather had an operational impact on the station, forcing the plant to reduce power both times to remain within state thermal discharge limits, and to allow close inspection of the towers and effect necessary repairs.

Since the other twenty (20) cells in the two cooling towers do not serve a nuclear safety function, the NRC does not have detailed safety regulations governing the design, construction, or operation of these structures. Rather our safety regulations focus on those systems, structures, and components necessary for the safe shutdown of the facility. The remaining cooling tower cells (beyond cells 2-1 and 2-2) are built to applicable codes and standards typically required by insurance carriers and/or state and local permitting authorities similar to other onsite structures that the NRC also does not regulate (e.g., onsite office buildings, warehouses). Based on our discussions with the licensee and State and local regulators, we understand that none of these entities either conduct periodic inspections of, or have prescriptive maintenance regulations governing, these cooling tower cells. We note that the licensee does have a financial incentive to adequately maintain these cooling towers since they are needed at various times to meet mandatory Vermont State thermal discharge limits when the plant is producing power.

Request 2:

You requested clarification of our response for the May 12, 2008, incident involving the reactor building crane, which stated that "This issue did not have any impact on public health and safety." You note that page 7 of the NRC's Integrated Inspection Report 05000271/2008003 states that failure of the crane "could prevent safety-related structures, systems, and components from fulfilling their safety-related function or whose failure could cause a reactor scram or actuation of a safety-related system." You requested information about what follow-up inspections have been done on this structure to ensure that the crane does not pose a threat to the people of New Hampshire, Vermont, and Massachusetts?

NRC Response to Request 2:

The NRC has published detailed guidelines to ensure that heavy loads handled by cranes at nuclear plants are controlled safely to avoid the potential consequences of dropping such loads from elevated heights onto safety-related equipment or stored spent fuel. Enclosed is NRC Bulletin 96-02 which details much of the history of the NRC's oversight of this safety issue.

The NRC conducted a series of inspections prior to and during the initial loading of Independent Spent Fuel Storage canisters at Vermont Yankee. These inspections were conducted in accordance with NRC Inspection Procedure 60854, "Preoperational Testing of an Independent Spent Fuel Storage Installation (ISFSI)." In addition, as documented in NRC Inspection Report 05000271/2008003, NRC inspectors carefully reviewed the incident in question as well as Entergy's corrective actions in the matter to avoid recurrence. Additional inspections which encompassed all of the ISFSI activities have been conducted since that time and will be documented in another NRC inspection report to be issued later this month. We note that following the incident in question, NRC inspectors observed troubleshooting and subsequent load testing of the crane, and noted that five fully loaded spent fuel casks were safely transferred since that time. Thus, we believe the measures taken following the May 12, 2008, incident were adequate to ensure that heavy loads could be moved safely by the reactor building crane.

The specific quote you referenced was taken directly from Title 10 of the Code of Federal Regulations, Part 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." A portion of this regulation defines the scope of the non-safety-related structures, systems, and components (SSCs) that are within the scope of this regulation known as the Maintenance Rule. This quote was used in the inspection report to explain why the reactor building crane, classified as a non-safety-related SSC, was within the regulatory purview of the NRC, and as such, why it was appropriate to issue to Entergy a non-cited violation of NRC requirements. As detailed in the inspection report, based on our review, we concluded that the actual safety significance of the inspection finding related to the maintenance of the crane was very low. The safety significance of this finding was determined based on the minimal potential risk posed by the problem experienced with the reactor building crane. In summary, we determined that the actual incident on May 12th had no impact on public health and safety since the ISFSI cask was slowly lowered to the floor without damage.

Request 3:

You requested a description of the NRC involvement, if any, of the investigation into the August 26th incident that temporarily raised the radiation level in part of the plant.

NRC Response to Request 3:

The particular event in question did not cause a release of radioactivity to the environment, or cause any plant workers to receive a significant radiation dose due to the short duration of the incident and the prompt evacuation of affected plant areas. The event was caused when a water cleanup system was returned to service. This initiated a temporary series of chemical reactions that ultimately resulted in the release of radioactive nitrogen from the reactor coolant system. This nitrogen flowed, along with steam, through piping to other parts of the plant, elevating radiation levels in those areas. However, the lifespan (or half-life) of this radioactive form of nitrogen is very short, causing it to decay to a non-radioactive state in a matter of minutes. As a result, radiation levels throughout the plant returned to normal levels fairly quickly.

At the time of the event, the NRC senior resident inspector was onsite in the control room monitoring the licensee's response, and observed Entergy's initial measures to protect plant workers, and identify and isolate the source of the elevated radiation levels. The NRC inspectors subsequently reviewed Entergy's longer-term response in this matter as part of our baseline inspection of the licensee's problem identification and corrective action system. If, in the course of our ongoing review, a licensee performance deficiency is identified that is of sufficient significance, it will be documented, along with any resulting NRC enforcement action, in our next quarterly inspection report due out by mid-November 2008.