



CHAIRMAN

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

May 4, 2004

Mr. Michael H. Dworkin, Chairman  
Vermont Public Service Board  
112 State Street, Drawer 20  
Montpelier, Vermont 05620-2701

Dear Mr. Dworkin:

I am responding on behalf of the U.S. Nuclear Regulatory Commission (NRC) to your letters dated March 15 and 31, 2004, regarding the request by Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (Entergy), to amend the Vermont Yankee Nuclear Power Station license to increase the power level of the facility. In those letters, the Vermont Public Service Board requested that the NRC conduct its review of the proposed power uprate in a way that would provide Vermont a level of assurance about plant reliability equivalent to an independent engineering assessment. The NRC has decided to conduct a detailed engineering inspection that we believe will be appropriate for addressing our oversight responsibilities and is also responsive to the Board's concern. This inspection will be performed as part of a new engineering inspection program that the NRC has been developing to enhance the Reactor Oversight Process.

NRC regulations and its oversight process focus on ensuring nuclear safety, whether the facility is operating at power or shut down. The NRC's statutory authority does not extend to regulating the reliability of electrical generation. The NRC recognizes, however, that there is some overlap between attributes that result in safe operation and those that contribute to overall plant reliability.

The Commission understands that the Board is concerned about the reliability of Vermont Yankee following an increase in power level, especially in light of operational issues that have occurred at some other plants that have recently implemented extended power uprates. The NRC recognizes the importance of these issues and is taking steps to ensure that they are satisfactorily addressed to maintain safety. For example, in response to instances of steam dryer cracking at some boiling water reactors, outside technical experts are assisting NRC staff in performing an audit of General Electric's analyses related to steam dryer performance and specific issues related to Vermont Yankee. We continue to engage the industry to ensure resolution of these issues and will consider additional regulatory action, if needed.

The NRC's established review process for power uprate applications is independent, thorough, and comprehensive. A description of the review process is enclosed. Engineering assessments have always been an integral part of the NRC's safety activities. Under our current Reactor Oversight Process, NRC resident inspectors and regional specialists routinely evaluate the work performed by the licensee's engineering organization to determine whether engineering analyses adequately support safe operation. Over the past several months, the NRC has been developing a new engineering inspection program which we intend to pilot at selected plants. The NRC staff considered a number of factors, including the Board's request for an independent engineering assessment, and concluded it is appropriate to conduct this engineering inspection at Vermont Yankee. This new engineering assessment inspection incorporates the best practices of the existing and past engineering inspections. The NRC will use this inspection to verify that design bases have been correctly implemented for a sampling of components across multiple systems and to identify latent design issues. The inspection process uses operating experience, risk assessment, and engineering analysis to select risk-significant components and operator actions, and will ensure that adequate safety margins exist. Although the specific sampling of components is still being developed, it will include components from multiple systems that are potentially affected by a power uprate such as the emergency core cooling systems, the containment system, power conversion systems, and auxiliary systems. The inspection will be performed by a team of approximately six inspectors, including some NRC inspectors who do not have recent oversight experience with Vermont Yankee and at least two contractors with design experience. Three weeks of on-site inspection and over 700 hours of direct inspection time will be conducted. This level of effort exceeds that of the biennial safety system design inspection. The Commission believes it is appropriate for addressing the NRC's oversight responsibilities and is also responsive to the Board's concerns. The NRC staff will inform the State of Vermont of the schedule for this inspection to facilitate participation by State representatives, consistent with NRC policy.

The NRC Advisory Committee on Reactor Safeguards (ACRS) will also review the Vermont Yankee power uprate request. The ACRS is a statutory committee that reports directly to the Commission and is structured to provide a forum where experts representing many technical perspectives can provide advice that is factored into the NRC's decision-making process. The NRC staff will provide the results of its review efforts, including relevant inspection findings, to the ACRS for review. After the ACRS completes its review, it will make an independent recommendation regarding whether the proposed power uprate amendment should be approved.

The NRC will not approve the Vermont Yankee uprate, or any proposed change to a plant license, unless the NRC staff can conclude that the proposed change will be executed in a manner that assures the public's health and safety. In response to your request, the NRC staff has taken a close look at proposed inspections and technical reviews to ensure that they will identify and address potential safety concerns for operating at uprated power conditions. The staff has concluded that the detailed technical review, prescribed in the Extended Power Uprate Review Standard, coupled with the normal associated program of power uprate and engineering inspections, will provide the information necessary for the NRC staff to make a

decision on the safety of operation of Vermont Yankee under uprated power conditions. The Commission believes that the results of NRC reviews and inspections, particularly the new engineering inspection, will assist in addressing the Board's concerns regarding the future reliability of Vermont Yankee. The NRC staff is prepared to meet with the Board to explain further our review process and scope, including the engineering assessment inspection.

Sincerely,

*IRA*

Nils J. Diaz

Enclosure:

Established NRC Power Uprate Review Process

