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FINAL REPLY:

Michael H. Dworkin
Vermont Public Service Board
State of Vermont

TO:

Chairman Diaz

FOR SIGNATURE OF : ** GRN ** CRC NO: 04-0168

Dyer, NRR

DESC:

Independent Safety Assessment of Vermont Yankee

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DATE: 03/24/04

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SPECIAL INSTRUCTIONS OR REMARKS:

Ref. G20040176, G20040203.

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AUTHOR: Michael Dworkin
AFFILIATION: VT
ADDRESSEE: Nils Diaz
SUBJECT: Vermont Public Service Board Request for Independent Engineering Assessment of Vermont Yankee

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State of Vermont
Public Service Board

March 15, 2004

Mr. Nils J. Diaz, Chairman
United States Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852
ATTN: Document Control Desk
Washington, D.C. 20555

Subject: Vermont Public Service Board Request for
Independent Engineering Assessment of
Vermont Yankee Nuclear Power Station
License No. DPR -28 (Docket 50-271)
Technical Specification Proposed Change No. 263
Extended Power Uprate

Dear Chairman Diaz:

As you know, Entergy Nuclear Operations, Inc. ("Entergy"), is seeking approvals from both the United States Nuclear Regulatory Commission ("NRC") and the Vermont Public Service Board ("Board") in regard to a proposed 20 percent power uprate at the Vermont Yankee Nuclear Power Station ("Vermont Yankee"). We noted in your February 20, 2004, letter to Michael Kansler, President of Entergy, that your staff has determined that Vermont Yankee's extended power uprate ("uprate") application is now acceptable for review, and that your review is expected to be completed over the next 12 months.¹

Entergy has also submitted a request to the Board for a Certificate of Public Good permitting Vermont Yankee to increase electrical generation by up to 20 percent. In determining whether Entergy should receive a Certificate of Public Good, the Board must consider several statutory criteria, including economic impacts upon the people of Vermont.

Because of this statutory standard, assessing the reliability effects of the proposed uprate upon Vermont Yankee's expected output is critical to our review. Very few nuclear plants (and even fewer of Vermont Yankee's age) have seen uprates in the 17-20 percent range. Among those

1. Letter to Michael Kansler, President Entergy Nuclear Operations, Inc. (TAC No. MC0761).

few, reductions in output have been more than incidental. From Vermont's perspective, the proposed uprate raises serious engineering questions that only the NRC appears qualified to independently assess. Thus, we are writing to ask the NRC to augment its scheduled review of Vermont Yankee along the lines set out below.

During our investigation of Entergy's request, we heard testimony as to the need for an independent review of the proposed extended power uprate. We also heard testimony from Entergy, State officials, and advocates describing the NRC's review process, and the role of the Advisory Committee on Reactor Safety (ACRS). Testimony identified the ACRS as independent of the NRC staff who conduct the initial review of the technical aspects of the proposed changes, and the importance of an independent review of its staff's findings and conclusions.

We understand that, under certain circumstances, the NRC has agreed to sponsor a more detailed review of certain engineering aspects of a nuclear plant's operation in order to establish the effectiveness of regulatory oversight. In 1996, for example, the NRC conducted such a review at the Maine Yankee Atomic Power Station ("Maine Yankee"), where there were concerns about the analysis supporting an increase in the rated thermal power at which Maine Yankee could operate. We understand that the review undertaken at Maine Yankee was performed by a "team comprised of staff who were independent of any recent or significant regulatory oversight responsibility"² for Maine Yankee, and that it was coordinated with the State to facilitate participation by the State representatives consistent with NRC policy. We also recognize and greatly appreciate that the Commission has subsequently incorporated into its current uprate review process much of what was developed during the 1996 Maine Yankee assessment.

We ask that, as the NRC conducts its current uprate analysis of Vermont Yankee, it do so in a way that will provide Vermont with a level of assurance about reliability equivalent to an independent engineering assessment. Such an assessment contains the following features:

- It would be independent in the same sense as the independent safety assessment of Maine Yankee, *i.e.*, it should be performed by experts "independent of any recent or significant regulatory oversight responsibility" related to Vermont Yankee.³
- The assessment would be a vertical slice review of two safety-related systems and two Maintenance Rule, non-safety systems affected by the uprate. The level of effort necessary for this work has been described to us in testimony as requiring about four experts for about four weeks.⁴ This will provide a valuable check of the reliability of the systems that are reviewed and allow for correction of any problems.
- The independent engineering assessment should (as we believe is expected) be reviewed by the ACRS in the context of their evaluation of the power uprate.

2. Independent Safety Assessment of Maine Yankee Atomic Power Company, U.S. Nuclear Regulatory Commission, October 1996; Vermont Public Service Board Docket No. 6812, exh. NEC-DL-3 at 1.

3. *Id.*

4. Lochbaum pf. 12/18/03 at 8-9; tr. 1/13/04 at 110-111 (Lochbaum).

We are making this unusual request of the NRC because Vermont must be reasonably assured that Vermont Yankee — a resource for which two of the state's largest retail electricity providers have contracted nearly one third of their power for the next nine years — continues to be a reliable source of electricity. While the reliability of Vermont Yankee has always been of great concern to the Board, it is especially important in the case of this proposed 20 percent extended power uprate. Thus, we request this review, as set out above, because the record presented in our proceeding strongly suggests that an uprate of the magnitude proposed here raises significant reliability issues upon which the NRC's assessment will be of extraordinarily high value.

Thank you very much for your consideration of this matter. We would welcome a response at your earliest convenience.

Sincerely,



Michael H. Dworkin

for
Vermont Public Service Board

Michael H. Dworkin, Chairman
David C. Coen, Board Member
John D. Burke, Board Member

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