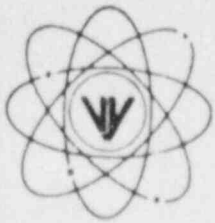


VERMONT YANKEE NUCLEAR POWER CORPORATION



RD 5, Box 169, Ferry Road, Brattleboro, VT 05301

FVY 88-79

REPLY TO:

ENGINEERING OFFICE

1671 WORCESTER ROAD

FRAMINGHAM, MASSACHUSETTS 01701

TELEPHONE 617-872-8100

September 16, 1988

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attn: Document Control Desk

- References:
- a) License No. DPR-28 (Docket No. 50-271)
 - b) Letter, USNRC to All Holders of an Operating License or Construction Permit for Boiling Water Reactors (BWRs), NRY 88-111, USNRC Bulletin No. 88-07, dated 6/15/88
 - c) General Electric SIL 380, Rev. 1, "BWR Core Thermal Hydraulic Stability", dated 2/10/85
 - d) Letter, C.O. Thomas (NRC) to H.C. Pfefferlen (GE), "Acceptance for Referencing of Licensing Topical Report NEDE-24011, Rev. 6, Amendment 8, 'Thermal Hydraulic Stability Amendment to GESTAR II'", dated 4/24/85

Dear Sir:

Subject: Vermont Yankee Response to NRC Bulletin 88-07: Power Oscillations in Boiling Water Reactors (BWRs)

NRC Bulletin No. 88-07, Power Oscillations in Boiling Water Reactors (BWR's) [Reference b)] required utilities with operating licenses for BWR's to brief licensed operators and Shift Technical Advisors performing shift duties on the March 9, 1988 LaSalle Unit 2 event. In addition, the utilities were directed to verify that their procedures, operator training programs, and instrumentation are adequate to respond to this type of event. The following information is provided in response to Bulletin 88-07.

BULLETIN ACTION ITEM :

Operator Briefing

In accordance with Action Item 1 of the subject Bulletin, Vermont Yankee conducted a review of the previous operator training on the appropriate response to power oscillations. All active licensed operators and shift engineers were required to read pertinent documents that described the LaSalle event. Informal discussions were held within the operating crews and resulting questions were addressed on a one-on-one basis by Operations Department management. This

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effort was accomplished within the required fifteen (15) days following receipt of the Bulletin. To further verify the adequacy of this method of briefing, an independent assessment was subsequently performed on a random sample of Vermont Yankee operators. All personnel interviewed demonstrated an understanding of the LaSalle event and its significance.

BULLETIN ACTION ITEM 2

In accordance with the requirements of Action Item 2 of the subject Bulletin, Vermont Yankee verified the adequacy of our procedures and operator training programs as described below.

Operator Procedures

In response to SIL 380, Rev. 1 [Reference c)], Vermont Yankee implemented a Technical Specification change [Amendment No. 94, dated August 8, 1986] that established three stability zones on the power/flow map. This change identified the APRM/LPRM monitoring requirements when operating in a potentially unstable region and specified the actions that are taken when operating in one of the sensitive regions. In addition, plant procedure OP 2427, Monitoring Reactor Stability, was developed to establish baseline APRM/LPRM data and provide instruction for data collection when operating in a sensitive area of the power/flow map as required by Technical Specifications. This data is compared to the baseline data to determine if instability is occurring and provides specific direction on actions to be taken.

A LaSalle type event at Vermont Yankee would have been mitigated by the required operator actions of OT 3118, Recirculation Pump Trip Procedure, for a dual pump trip. This procedure previously directed operators to immediately commence a reactor power reduction to less than or equal to the limit of Figure 3.6.4 of Technical Specifications (\leq the 80% Rod Line) and continue reducing power to be in the Hot Shutdown Mode within the next 12 hours. In response to the LaSalle incident we have revised procedure OT 3118 to include a requirement to scram the reactor if a dual pump trip occurs. In the event of a single pump trip with power oscillations $>10\%$ peak-to-peak, the operator is directed to manually scram the reactor if power oscillations are not reduced to $<10\%$ peak-to-peak within two minutes. The above procedure revisions have been placed in the Operations Department night order log book to ensure the operators are cognizant of these requirements. In addition, procedural as well as Technical Specification requirements prohibit starting a Recirculation Pump in the natural circulation mode.

Based on the above, we conclude that our procedures are adequate to respond to a potential or actual power oscillation event.

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Further, we are developing additional procedural guidance for the operators, to provide direction for non-recirc pump entry conditions. This procedure revision will be issued in October 1988.

Training Programs

Vermont Yankee's Training Department specifically addressed power oscillation events during the comprehensive 1986 LOR training program on the Technical Specification change [Amendment No. 94] responding to SIL 380, Rev. 1. This operator training included the following:

- o the basic mechanism of Limit Cycle Oscillations;
- o recognizing Limit Cycle Oscillations on control room instrumentation; and
- o the power/flow map relative to areas of concern and required action when entering one of these regions and associated Technical Specifications.

The Licensed Operator Initial (LOI) and the Shift Engineer Initial (SEI) training programs provide instructions in OP 2427, OT 3118 and the Technical Specifications involving reactor stability during the procedures training section of these initial programs. The new procedure, the LaSalle event and the material from the LOR program above will be incorporated into all Licensed Operator and Shift Engineer Initial training programs by November 1988.

The LaSalle Unit 2 event specifics will be reviewed again during the 1988 LOR training cycle which will be completed by October 7, 1988.

Based on the above, we conclude that our training program adequately addresses the issue of power oscillations.

Instrumentation

Bulletin No. 88-07 additionally requested licensees to verify the adequacy of the instrumentation which is relied upon by operators within their procedures. Accordingly, Vermont Yankee conducted an evaluation of that instrumentation relied upon by the operators and concluded that it is adequate for detection of core power oscillations. Vermont Yankee performed a review of the appropriate equipment and determined the design of our Neutron Monitoring System has not been modified since the initial installation. Therefore, it is concluded that the Vermont Yankee instruments will not mask a LaSalle type electronics response. These instruments have been previously reviewed by the NRC and were approved for use in detecting neutron flux oscillations by the NRC SER on stability [Reference d)].

VERMONT YANKEE NUCLEAR POWER CORPORATION

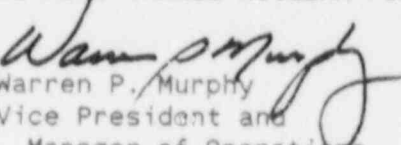
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Further, Vermont Yankee will comply with the subject Bulletin request to document and maintain at the plant site for a period of at least two years the evaluation of the adequacy of our procedures, training programs and the instrumentation relied upon within our procedures.

We trust that these actions meet the requirements of NRC Bulletin No. 88-07 in that we have procedures and operator training programs that address uncontrolled power oscillations independent of calculated decay ratios; however, should you have any questions on this matter, please contact us.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

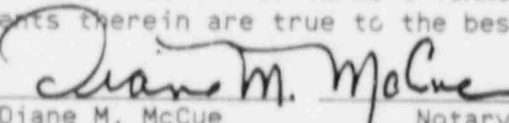

Warren P. Murphy
Vice President and
Manager of Operations

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cc: USNRC Regional Administrator, Region I
USNRC Resident Inspector, VYNPC

STATE OF VERMONT)
) ss
WINDHAM COUNTY)

Then personally appeared before me, Warren P. Murphy, who, being duly sworn, did state that he is Vice President and Manager of Operations of Vermont Yankee Nuclear Power Corporation, that he is duly authorized to execute and file the foregoing document in the name and on the behalf of Vermont Yankee Nuclear Power Corporation and that the statements therein are true to the best of his knowledge and belief.


Diane M. McCue Notary Public
My Commission Expires February 10, 1991

