

VERMONT YANKEE NUCLEAR POWER CORPORATION



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FVY 83-51

REPLY TO:

ENGINEERING OFFICE

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June 6, 1983

United States Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Office of Nuclear Reactor Regulation
Mr. Domenic B. Vassallo, Chief
Operating Reactors Branch No. 2
Division of Licensing

References: (a) License No. DPR-28 (Docket No. 50-271)
(b) Letter, USNRC to All BWR Licensees, dated October 1, 1980
(c) Letter, VYNPC to USNRC, FVY 81-14, dated January 27, 1981
(d) Letter, VYNPC to USNRC, FVY 82-4, dated January 19, 1982
(e) Letter, VYNPC to USNRC, FVY 82-42, dated April 20, 1982
(f) Letter, VYNPC to USNRC, FVY 83-23, dated March 22, 1983

Subject: Vermont Yankee Scram System Design

Dear Sir:

In response to the concerns expressed by the NRC in Reference (b), we committed to making extensive modifications to our Scram Discharge System as identified in Reference (c) and subsequently revised in Reference (f). During the course of integrating the design of these modifications, it became apparent that additional, extensive seismic support modifications to the Scram Discharge Volume piping would be necessary. This was reported to the NRC in Reference (e) and the upgrading was performed last fall. The changes committed to in Reference (c), as revised by Reference (f), are being installed during the current refueling outage.

During the course of reviewing equipment documentation to assure seismic qualification of the system required for the scram function, as committed to in References (c) and (f), we have determined that our assumption regarding frequency response of the General Electric supplied Hydraulic Control Units (HCUs) cannot be substantiated. The initial seismic shaker table test of the units was performed to a test response spectrum which enveloped Vermont Yankee's FSAR required response spectra and the HCUs were shown to remain functional, thereby ensuring the scram function. However, our recent review of the seismic shaker table test report revealed that the natural frequency of the HCUs was less than that required for rigidity based on our FSAR's definition (≥ 20 Hertz).

Because the analysis performed in support of recent modifications for connecting piping to and from the HCUs (insert and withdrawal lines and Scram

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Discharge Volume) assumed the HCU structure to be rigid, it will be necessary to perform additional analysis and perhaps additional modifications. We have solicited additional proposals and plan to develop and implement a design to bring the frequency response in line with our assumptions and the FSAR. To properly design a modification that will integrate with, yet not compromise, the previous work will require an extensive and perhaps lengthy analytical effort. We expect this analytical/design effort to be completed by February, 1984; however, our schedule for installation cannot be determined until we have reviewed the design, determined lead times for material delivery and assessed whether the modification can be implemented while the plant is operating.

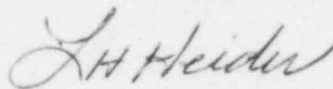
In summary, the Scram Discharge Volumes, new Instrument Volumes, instrumentation, associated piping and valves are installed seismically; however, the seismicity of the total system cannot be analytically verified until the HCU structure is either sufficiently stiffened or its flexibility properly accounted for in our analyses.

Leakage from the Scram Discharge System was thoroughly analyzed in NUREG 0803 and found not to be a matter of safety concern as such an event is not a dominant contributor to core melt. Based on the NUREG and our evaluation which was provided to the NRC in Reference (d), we believe that operation of the plant while analysis, design, and possible installation of additional supports is being considered, is justified.

Should you have any questions in this matter, please contact us.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION



L. H. Heider
Vice President

JBS/jmb