



Proposed Change No. 89
Supplement 1

VERMONT YANKEE NUCLEAR POWER CORPORATION

SEVENTY SEVEN GROVE STREET
RUTLAND, VERMONT 05701

B.3.2.1
WVY 80-140

REPLY TO
ENGINEERING OFFICE
TURNPIKE ROAD
WESTBORO, MASSACHUSETTS 01581
TELEPHONE 617-366-9011

October 7, 1980

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

Attention: Office of Nuclear Reactor Regulation

References: (1) License No. DPR-28 (Docket No. 50-271)

(2) Vermont Yankee Proposed Change No. 89 (WVY-80-117), dated
August 19, 1980

(3) Letter, C. M. Richards (GE) to J. W. Heard (VYNPC) dated
September 12, 1980

Subject: Reload 7 Licensing Submittal, Additional Information.

Dear Sir:

Pursuant to Section 50.59 of the Commission's Rules and Regulations, Vermont Yankee Nuclear Power Corporation hereby proposes the following changes to Appendix A of the operating license.

Proposed Change:

The changes are described on Attachment 89-S-1. Revised pages are attached.

Reason and Basis for Change:

The reasons for the changes are described on Attachment 89-S-1. The following paragraphs, taken from a General Electric letter (Reference (3)), provide additional reasons and basis.

Basis for Change:

The majority of General Electric BWR's currently operating in the U.S. were originally designed and licensed on a basis of Minimum Critical Heat Flux

8010150267

P

Ratio (MCHFR). The MCHFR is a local phenomenon and so long as the Limiting Condition of Operation (LCO) was defined in terms of a local phenomenon it was believed necessary to provide adjustments in trip setpoints to account for power distribution effects. This adjustment was made by setting down the APRM scram and rod block by the ratio of Maximum Total Peaking Factor (MTPF) to Design Total Peaking Factor (DTPF). In 1974 GEXL was accepted as the license basis. GEXL protects against departure from nucleate boiling by establishing limits on bundle power, rather than limits on local heat flux. This change effectively removed the technical need for this adjustment; however, the requirement was not deleted from the plant technical specifications.

As long as all bundles in a given core possess the same number of active fuel rods, have the same active fuel length and identical cladding heat flux and bypass energy deposition fractions, administration of the set down requirement on a peaking factor basis is relatively simple. With the introduction of improved fuel designs (different active fuel length and number of active rods) the administration of this requirement has become complex and tedious.

Further, the different active fuel lengths also complicate the interpretation of the Technical Specifications. A strict interpretation of the wording in most plant technical specifications would require that APRM scram and rod block trips be set on the basis of the maximum total peaking factor; properly the trips should be set based on the maximum ratio of peaking factor to peaking factor "limit". While we believe all BWR Owners are interpreting and administering this section properly, it is ambiguous and should be modified to remove the ambiguity.

General Electric recommends that all BWR Owners who have not already done so, make the following changes to their plant technical specifications: Replace the set down factor, $A/MTPF^*$ (which is based only on the 144" fuel), with an equivalent factor, $FRP/MFLPD^{**}$ (which incorporates the effect of different fuel lengths in a slightly conservative fashion). This change will correct both of the aforementioned problems.

Safety Considerations:

None of the changes are deemed to involve significant unreviewed safety questions. The changes, in fact, remove ambiguity from the existing sections.

This submittal has been reviewed by the Vermont Yankee Nuclear Safety Audit and Review Committee.

* A is the design peaking factor and MTPF is the maximum total peaking factor. Specific symbols may vary in individual technical specifications.

** FRP is fraction of rated power and MFLPD is maximum fraction of limiting power density.

Fee Determination:

This proposed change requires an approval that involves a single safety issue and is deemed not to involve a significant hazards consideration. For these reasons, Vermont Yankee Nuclear Power Corporation proposes this change as a Class III Amendment. A payment of \$4,000.00 was forwarded with Reference (2).

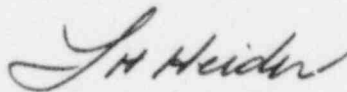
Schedule of Change:

This proposed change should be approved no later than November 14, 1980, which is the currently planned startup date for Cycle 8.

We trust you will find this submittal acceptable; however, should you have any questions, please contact us.

Very truly yours,

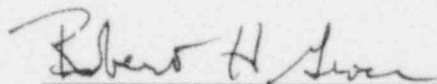
VERMONT YANKEE NUCLEAR POWER CORPORATION



L. H. Heider
Vice President

COMMONWEALTH OF MASSACHUSETTS))ss
COUNTY OF WORCESTER)

Then personally appeared before me, L. H. Heider, who, being duly sworn, did state that he is a Vice President of Vermont Yankee Nuclear Power Corporation, that he is duly authorized to execute and file the foregoing request 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.



Robert H. Groce Notary Public
My Commission Expires September 14, 1984

Description of Proposed Changes to Technical Specifications

<u>Section</u>	<u>Location</u>	<u>Change</u>	<u>Reason</u>
2.1	P.5a, Item A.1.a	Replace the current A.1.a with the enclosed.	To correct a slight non-conservatism in the scram settings.
2.1	P.6, Item B	Replace the current B with the enclosed.	To correct a slight non-conservatism in the rod block settings.
2.1	P.14a, Item A.1.a	Replace MTPF in bases with MFLPD.	To assure bases reflect actual scram settings.
2.1	P.14b, Item B	Replace "maximum total peaking factor" with "ratio of maximum fraction of limiting power density to fraction of rated power".	To assure bases reflect actual rod block settings.
3.1	P.18, Item 3.1.B.b	Replace the current 3.1.B.b with the enclosed.	To reflect the new limiting safety system setting in the limiting conditions for operation.
4.1	P.18, Item 4.1.B	Replace the current 4.1.B with the enclosed.	To reflect the new limiting condition for operation in the surveillance requirements.
4.1	P.31, Item 4.1.B	Replace "peak heat flux and total peaking factor" with "ratio of maximum fraction of limiting power density to fraction of rated power".	To assure bases reflect actual surveillance requirements.