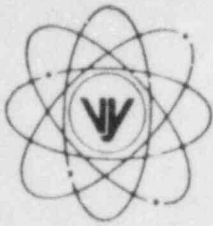


# VERMONT YANKEE NUCLEAR POWER CORPORATION

Proposed Change No. 118



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

REPLY TO:  
ENGINEERING OFFICE

1671 WORCESTER ROAD  
F. RAMINGHAM, MASSACHUSETTS 01701  
TELEPHONE 617-872-8100

February 7, 1984

FVY 84-9

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

Attention: Office of Nuclear Reactor Regulation  
Mr. D. G. Eisenhut, Director  
Division of Licensing

References: (a) License No. DPR-28 (Docket No. 50-271)  
(b) Letter, VYNPC to USNRC, FVY 83-45, Proposed Change No. 107, dated May 26, 1983  
(c) Final Rule [48FR24008], Fracture Toughness Requirements for Light Water Reactors, dated May 27, 1983

Subject: Reactor Vessel Pressure Temperature Curves

Dear Sir:

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

## Proposed Change

Replace Pages 111, 117, and 118 of the Vermont Yankee Technical Specifications with the enclosed revised Pages 111, 117, and 118. These pages are intended to supersede the replacement pages previously submitted to you via Reference (b).

Figure 3.6.1, "Reactor Vessel Pressure Temperature Limits for Operation Through 1.15E8 MWh(t)" has been updated to reflect allowable heatup curves for reactor operation through a power output of 1.330E8 MWh(t). The revised figure also reflects the promulgation of a revision to 10CFR Part 50, Appendix G [Reference (c)]. Pages 117 and 118 have been revised to reflect a change to the bases section of the Technical Specifications.

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### Reason for Change

This proposed change will revise our Technical Specifications to accommodate shifts in transition temperatures for the reactor vessel materials that were induced by radiation effects. These shifts are accounted for by revision of our pressure-temperature limits for heating up and cooling down the reactor. Periodic review and adjustment, if necessary, of the curves to account for the effects of increased neutron exposure is required by 10CFR Part 50, Appendices G and H.

This change adjusts the curves of Figure 3.6.1 to compensate for the effects of increased neutron exposure to permit operation to a power level of 1.330E8 MWh(t). This adjustment is necessary because the existing curves are limited to a power output of 1.15E8 MWh(t), a value which is expected to be reached during March 1984.

### Basis for Change

The basis for this change is discussed in detail in Reference (b). In addition, the recent promulgation of a rule change to 10CFR Part 50, Appendix G [Reference (c)] allows for:

1. Removal (for BWRs) of the hydrostatic pressure test temperature limit for criticality. The new temperature limit for criticality is the  $RT_{NDT}$  of the closure flange plus 60°F. For Vermont Yankee, this will be 120°F (the former temperature was 173.5°F). This value is applicable at pressures  $\leq 220$  psig. At pressures  $\geq 220$ , the criticality curves are a continuation of the previous curves based on 10CFR50, Appendix G, which requires that vessel temperature always be 40°F above the ASME Code, Section III, Appendix G, calculated curves during criticality.
2. Limiting normal operation and hydrotest to pressures below 220 psig until vessel closure flange temperature is well above  $RT_{NDT}$  of closure flange region. Specifically, when pressure exceeds 220 psig, the new hydrotest temperature is  $RT_{NDT}$  of the closure flange plus 90°F. This temperature is 150°F. In addition, when pressure exceeds 220 psig, the new normal operation temperature is  $[RT_{NDT}]_{CF}$  plus 120°F = 180°F.

Vermont Yankee's vessel closure flange is ASME SA 508, Cl 2 material. Because no fracture toughness test data for this material is available, its reference temperature ( $RT_{NDT}$ ) is defined by "Standard Review Plan", Section 5.3.2, Pressure Temperature Limits, and Branch Technical Position MTEB 5-2, "Fracture Toughness Requirements for Older Plants". That temperature is 60°F.

The closure flange is located in a low neutron fluence area, i.e., out of the "vessel beltline", and therefore no measurable RT<sub>NDT</sub> shift is expected over plant life.

These changes are reflected on the enclosed Pages 111 (Figure 3.6.1), 117, and 118.

#### Safety Considerations

The safety considerations are discussed in detail in Reference (b). This change has been reviewed by the Nuclear Safety Audit and Review Committee.

#### Significant Hazards Consideration

The NRC has provided guidance concerning the application of standards for conclusions regarding "Significant Hazards Consideration" [48FR14870]. The examples of actions involving no significant hazards consideration include: "A change to make a license conform to changes in the regulations, where the license change results in very minor changes to facility operations clearly in keeping with the regulations."

This change to the pressure-temperature limits is similar to the example cited above because 10CFR Part 50, Appendices G and H require the updating of pressure-temperature limits based on the surveillance program. This proposed change will result in a minor change to facility operations clearly in keeping with the regulations.

Based on the above, we have determined that this change does not constitute a significant hazards consideration, as defined in 10CFR50.92(c).

#### Fee Determination

This proposed change requires an approval that involves a single safety issue and is not deemed to involve an unreviewed safety question. For these reasons, Vermont Yankee Nuclear Power Corporation proposes this change as a Class III Amendment. A payment of \$4,000.00 is enclosed.

#### Schedule of Change

For reasons discussed above, we request that you expedite your review and approval of this proposed change. This change will be implemented as soon as practicable following receipt of your approval.

February 7, 1984  
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Very truly yours,

*L. H. Heider*  
L. H. Heider  
Vice President

cc: Vermont Department of Public Services  
120 State Street  
Montpelier, Vermont 05602  
Attention: Mr. Richard Saudek, Chairman

COMMONWEALTH OF MASSACHUSETTS)  
MIDDLESEX COUNTY ) ss )

*J.B. Sinclair*  
J. B. Sinclair Notary Public  
My Commission Expires June 1, 1984

