



# VERMONT YANKEE NUCLEAR POWER CORPORATION

SEVENTY SEVEN GROVE STREET

B.3.2.1

RUTLAND, VERMONT 05701

WVY 80-162

REPLY TO:

ENGINEERING OFFICE

TURNPIKE ROAD

WESTBORO, MASSACHUSETTS 01581

TELEPHONE 617-366-9011

November 21, 1980

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

Attention: Office of Nuclear Reactor Regulation

- References:
- (a) Licence No. DPR-28 (Docket No. 50-271)
  - (b) USNRC Letter to VYNPC dated October 30, 1980
  - (c) Vermont Yankee Reload No. 7 Submittal dated August 19, 1980
  - (d) VYNPC Letter to USNRC (WVY 80-54) dated April 3, 1980
  - (e) General Electric Letter to USNRC, No. SEC-063-80/MFN-172-80 dated October 6, 1980
  - (f) VYNPC Letter to USNRC (WVY 80-152) dated October 23, 1980
  - (g) LER 79-23/LP, Supplement 1
  - (h) General Electric Letter to USNRC, No. MFN-295-79 dated December 11, 1979
  - (i) USNRC Letter to VYNPC dated January 16, 1980
  - (j) General Electric Letter to USNRC, No. MFN-129-80 dated July 28, 1980
  - (k) USNRC I&E Report No. 50-271/80-05 dated August 25, 1980

Dear Sir:

Subject: Supplemental Information to Vermont Yankee Reload No. 7 Submittal

Reference (b) requested additional information regarding leaker fuel bundles which were identified in 1978 and 1979, as well as wear observed on water rod lower end plugs. The following information is supplied to you in response to your request. Extensive information has already been transmitted to the NPC in the form of letters, discussions and presentations to keep the staff fully informed on these subjects (References (h) through (k)).

In response to item 490.1 contained in Reference (b), our analysis has lead us to the conclusion that the failures in Reload 3 fuel were the direct result of an anomalous metallurgical condition which made the fuel clad susceptible to accelerated corrosion under normal operating conditions. The failures were limited to a small number of rod lots contained in the Reload 3 batch of fuel which would suggest an excursion in one or more manufacturing processes. We believe that the fact that the majority of failures occurred in gadolinia fuel was coincidental due to the manner in which material flows through the manufacturing facility and is segregated into rod lots. The results of a very thorough investigation of this incident were presented to the NRC in a meeting in December 1979 (Reference (h)). Other fuel types and

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rod lots have been visually inspected since the original failures were discovered with no anomolus results. GE has undertaken efforts to minimize material problems in manufacturing. Vermont Yankee presently has in service some fuel with cladding made specifically to minimize corrosion.

Vermont Yankee has always controlled its water chemistry closely. Observations to date indicate that crud levels on our fuel is typically lower than on other BWR plants. GE recommendations have been implemented to the extent practical.

In answer to item 490.2 of Reference (b), the lower end plug configuration of Reload 7 fuel has been changed to incorporate the design of earlier fuel types which have not exhibited wear. Future end plug inspections at Vermont Yankee will be consistent with GE recommendations as part of their generic investigation into this problem.

We trust this information is sufficient for you to complete your review of our reload submittal. However, should you feel the need for further information please do not hesitate to contact us.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION



R. L. Smith  
Licensing Engineer

RLS/kab