

MAY 12 1972

Docket No. 50-29

Yankee Atomic Electric Company  
ATTN: Mr. Donald E. Vandenburg  
Vice President  
20 Turnpike Road  
Westboro, Massachusetts 01581

Gentlemen:

This refers to your Proposed Change No. 99 dated May 9, 1972, and supplemental information contained in two teletypes dated May 10 and 11, 1972, respectively, requesting authorization of a change in the Technical Specifications appended to License No. DPR-3 for the Yankee reactor. The proposed change would modify the specification relating to the boron concentration in the reactor coolant.

The information you have submitted indicates that the presently specified main coolant system boron concentration imposes operational restrictions that prevent operating the plant above 15 MWe. This is the result of the previously revised limits on control rod withdrawal which are necessary to meet the increased shutdown margin specified in Change No. 97.

You have determined that a reactor coolant boron concentration above the presently specified value of 1700 ppm is necessary to compensate for the effect of the additional control rod withdrawal. You propose implicit limits on the boron concentration in terms of specified values of the moderator temperature coefficient. During Core X physics testing, you will determine the boron concentration in terms of values in ppm corresponding to measured values of the moderator temperature coefficient. You will use this information for controlling operational changes in the boron concentration within the specified values of the moderator temperature coefficient.

We have reviewed the information you have submitted on your evaluation of the safety considerations associated with the change in the reactor coolant boron concentration, including the effects on accidents analyzed previously. Increase of boron in the reactor coolant would affect the consequences of only the boron dilution accident assumed to occur when

Distribution  
WDooley, DR  
Compliance (3)  
HShapar, OGC  
NDube, DL (5)  
JRBuchanan, ORNL  
TWLaughlin, DTIE  
PDR  
✓ Docket File  
DL Reading  
Branch Reading  
ACRS (16)  
DJSkovholt, DL  
TJCarter, DL  
RJSchemel, DL  
ABurger, DL (cont. p 2)  
Change No. 99  
License No. DPR-3

8011030 758

P

MAY 12 1972

the reactor is at full power. Your reanalysis of this accident in support of Proposed Change No. 99 shows that the added boron causes a small increase in the rate of reactivity addition during the accident that results in an increase of the DNB ratio for operation with 4 loops and a decrease of the DNB ratio from 1.94 to 1.92 for operation with 3 loops. We conclude that this decrease is not significant compared with the required minimum DNB ratio of 1.3. We have also concluded that the boron concentration can be controlled within the proposed values of the moderator temperature coefficient, and that these values are acceptable. Consequently, we have concluded that the proposed change does not present significant hazards considerations not described or implicit in the Final Safety Analysis Report, and that the health and safety of the public will not be endangered by operation of the Yankee reactor in the manner proposed.

Accordingly, pursuant to Section 50.59 of 10 CFR Part 50, subparagraph (6) of Section D.2.d of the Technical Specifications of Facility License No. DPR-3 is hereby changed in its entirety to read:

"D.2.d(6) At zero power, except during physics testing, the moderator temperature coefficient shall not be positive. At rated steady state power, the moderator temperature coefficient shall be more negative than  $-0.5 \times 10^{-4} \Delta k/k$  per °F."

Sincerely,

Donald J. Skovholt  
Assistant Director for  
Operating Reactors  
Directorate of Licensing

cc: C. Duane Blinn, Esquire  
Day, Berry & Howard  
Counselors at Law  
1 Constitution Plaza  
Hartford, Connecticut 06103

Distribution (cont.)  
RBoyd, DL  
RDeYoung, DL  
SATEETA, DL

*0-5/14/72*

*at 4 notified L. Heider, Van ...  
by telecon that change is signed*

OFFICE ▶	L:ORB #1	L:ORB #1	L:ORB #1	L:OP		
SURNAME ▶	ABurget.sjh	SATEETA	RJSchemel	DJSkovholt		
DATE ▶	5/12/72	5/12/72	5/12/72	5/12/72		