

# YANKEE ATOMIC ELECTRIC COMPANY



20 TURNPIKE ROAD, WESTBORO, MASSACHUSETTS 01581  
TELEPHONE 617 366-9011



Regulatory File Cy.

October 25, 1972

United States Atomic Energy Commission  
Washington, D. C. 20545

Attention: Directorate of Licensing

Reference: License No. DPR-3(Docket No. 50-29)  
Proposed Change No. 102



Dear Sirs:

The four Zircaloy clad fuel rods, originally enriched to 4.0 W/O shall be removed from fuel assembly No. B-436 located in Core X position J-7. The four fuel rods shall be removed from corners of the fuel assembly not located adjacent to control rods. Although the fuel assembly was primarily constructed with unpressurized fuel rods, two of the removable fuel rods were pre-pressurized. Two fuel rods, one pressurized and one unpressurized have a burnup of approximately 3200 MWD/MTU, and two fuel rods, one pressurized and one unpressurized have a burnup of approximately 4155 MWD/MTU. The four fuel rods to be removed will be replaced with four mechanically identical Zircaloy clad fuel rods (two pressurized and two unpressurized) with an enrichment of 3.5 W/O as shown in Figure 1. This enrichment is approximately equal to the enrichment of the fuel rods, at this burnup, to be removed.

The nuclear analysis, to show the effect of replacing the four fuel rods, was performed using two dimensional PDQ calculations. This analysis showed that the peak fuel rod, in the vicinity of the replacement rods, increased 1 to 2%; however, this peak was approximately 27% below the peak fuel rod in the assembly. (The peak fuel rod in the assembly corresponds to the predicted value given in Table 102-2 of Proposed Change No. 97). Insertion of the four 3.5 W/O Zircaloy clad fuel rods did not affect the peak fuel rod in the assembly; thus, all inputs to transient and accident analysis would not change.

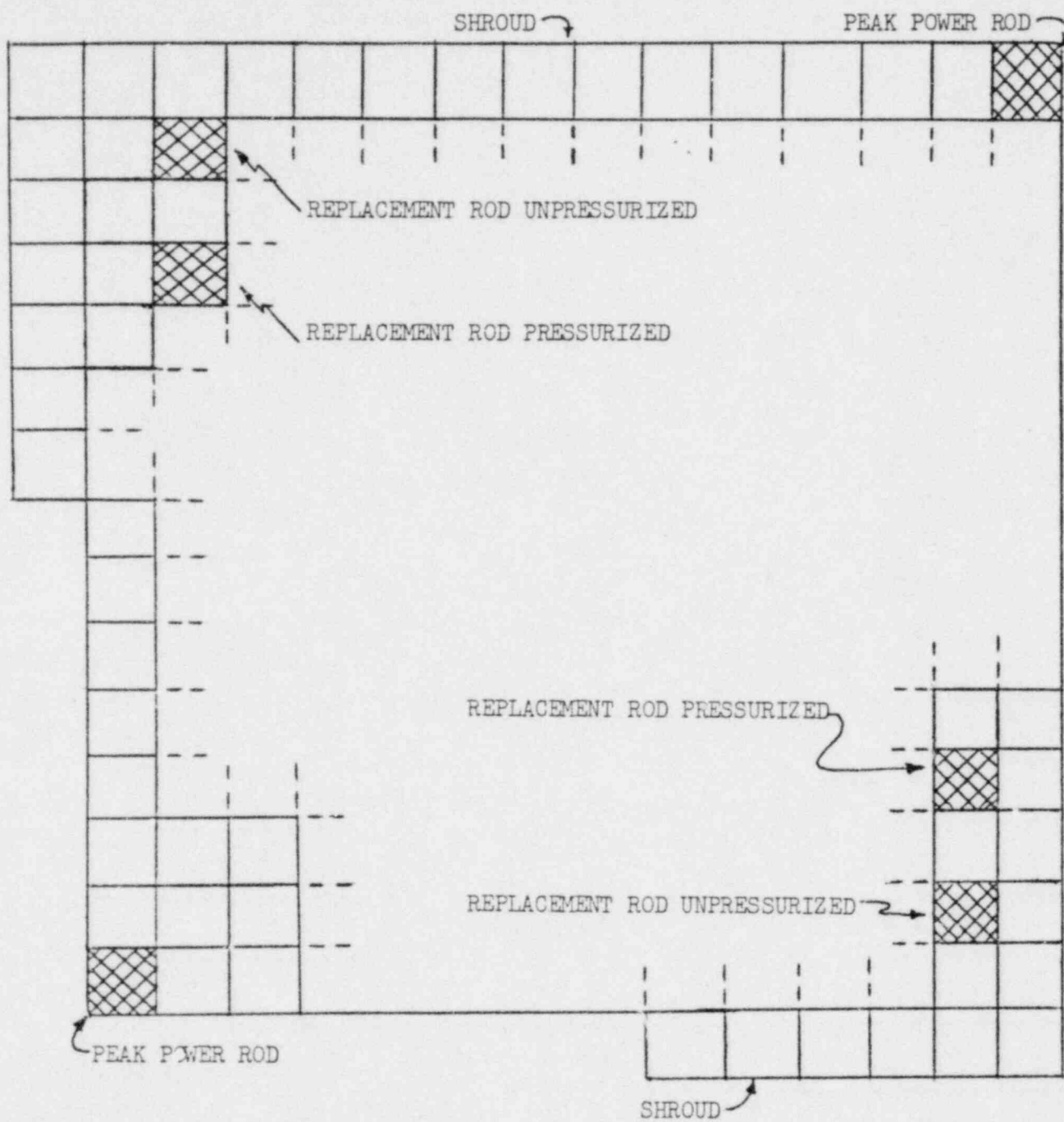
We trust this information is satisfactory and aids in the approval of Proposed Change No. 102.

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Armand R. Soucy                      Notary Public  
My Commission Expires      September 9, 1977



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Ltr notarized 10-25-72 ...trans the following:

ENCLOSURES:  
SUPPL NO. 1 to PROPOSED CHANGE NO. 102  
w/attached Fig No. 1.

PLANT NAMES: Yankee Rowe

ACKNOWLEDGED

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FOR ACTION/INFORMATION 10-30-72 fod

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