

UNITED STATES
ATOMIC ENERGY COMMISSION

WASHINGTON, D.C. 20545

September 27, 1971

File (SEFOR, Docket No. 50-231)

THRU: *R. V. Schemel* Chief, ORB #1, DRL

EVALUATION OF PROPOSED CHANGE NO. 5 (HEAD BOLTS)

By TWX on March 15, 1971, GE informed DRL that the outer ring of bolts in the head of the reactor vessel had yielded. After reviewing GE's report⁽¹⁾ which followed the TWX, we requested additional information⁽²⁾ which GE is submitting in three parts. Two parts have been received. The first part is a report⁽³⁾ dealing with bolt stresses, the second part is a proposed change⁽⁴⁾ to the Technical Specifications, and the third part will be a report of an independent analysis of the stress at the vessel wall to flange transition.

The report on bolt stresses summarizes analyses of strain measurements which demonstrate that the stresses in the bolts will be within code allowables if the prestress in the bolts is limited to 4000 psi and if the average rate of change of outlet temperature is limited to 10⁰ F/hr or less. Limiting the rate of change of temperature limits the relative rotation of the flanges and the stress superposed on the prestress. At DRL's request, the report was reviewed by DRS and found to provide reasonable assurance that the bolting problem has been solved.⁽⁵⁾

The proposed change to the Technical Specifications would limit bolt prestress, limit the rate of change of outlet temperature and require surveillance of the bolts. The proposed change is adequately supported by the stress report. However, the proposed surveillance requirement references dye penetrant code criteria for forgings and bars instead of the criteria for bolts. Further, GE has omitted a reference to the code criteria for visual examination of bolts. GE has agreed⁽⁶⁾ to appropriate changes in their proposal.

(1) K. Cohen, letter to P. A. Morris, May 17, 1971.

(2) P. A. Morris, letter to K. Cohen, April 19, 1971.

(3) K. Cohen, letter to P. A. Morris, May 28, 1971.

(4) K. Cohen, letter to P. A. Morris, April 28, 1971.

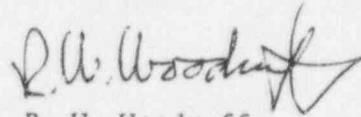
(5) D. F. Lange and R. R. Maccary, memo to D. J. Skovholt and R. W. Woodruff, August 20, 1971.

(6) R. A. Meyer, telecon with R. W. Woodruff, September 7, 1971.

September 27, 1971

Our request for the independent stress analysis of the vessel wall to flange transition stated that the information was required within six months. GE has assured⁽³⁾ us that the information will be submitted within that time. The information is expected to be confirmatory and is not essential for action on Proposed Change No. 5.

Based on our evaluation of the proposed change, we conclude that it does not present significant hazards considerations not described or implicit in the safety analysis report and that there is reasonable assurance that the health and safety of the public will not be endangered.



R. W. Woodruff
Operating Reactors Branch #1
Division of Reactor Licensing

cc: D. J. Skovholt
R. H. Vollmer
R. J. Schemel
R. W. Woodruff (2)
S. A. Teets
M. Jinks (2)