Docket File

Docket No. 50-2

OCT 30 1972

Yankee Atomic Electric Company
ATTN: Mr. L. H. Hinnick
Vice President
20 Turnpike Road
Westboro, Massachusetts 01581

Change No. 103
License No. DPR-3

Gentlemen:

By letter dated October 12, 1972, and supplemental information contained in your teletype dated October 27, 1972, you requested authorization of certain changes in the Technical Specifications appended to License No. DPR-3. The proposed changes would allow sealing off the in-core flux wire thimbles in the north instrumentation port and to operate the reactor with the reduced number of locations at which flux wires can be inserted.

The in-core instrumentation in the Yankee reactor includes twenty-seven thermocouples for monitoring core outlet water temperatures and a flux wire system having nineteen pathways for inserting activation wires into selected core locations. This instrumentation provides the information that is used to determine the actual power distribution and to confirm the margins in the hot channel factors predicted analytically for the operating core.

The flux wire thimbles terminate in the east and north instrumentation ports that penetrate the reactor vessel head. Deterioration has occurred inside several thimbles in the north port that has rendered them unusable for insertion of flux wires. As a prudent measure to preclude potential adverse effects on the integrity of the primary cooling system pressure boundary, you propose to seal off the entire north instrumentation port.

We have reviewed the information you have submitted on the modifications to the north instrumentation port, including proposed inspection and testing. All fabrication, installation and testing will be carried out in accordance with approved written procedures. We have concluded that the proposed method of sealing the north instrumentation port is acceptable.

Sealing the north instrumentation port will reduce the number of locations at which flux wires can be inserted from nineteen to eight. Data obtained during operation with previous cores have confirmed that the analytical predictions of core power distribution include significant margins compared with actual operating conditions. The thermal performance variables predicted previously for operating the reactor with Core X at full power are much lower than the design values that were used in establishing the Core X control rod insertion limits that are included in the Technical Specifications. This adds to the safety margins in the hot channel factors. Therefore, reactor operation for the remaining life of Core X with the operable core thermocouples and the eight available flux wire locations does not involve safety considerations not previously evaluated. We have noted your plans to install a new in-core instrumentation package, new reactor vessel head conoseals, and a new moveable in-core fission detector monitoring system during the 1973 fall refueling outage.

On the basis of the information you have submitted, we have concluded that the proposed changes do not involve 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. Accordingly, pursuant to Section 50.59 of 10 CFR Part 50, Change No. 103 is hereby authorized.

Sincerely,

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

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