

YANKEE ATOMIC ELECTRIC COMPANY

Telephone 617 872-8100



1671 Worcester Road, Framingham, Massachusetts 01701

2.C.2.1
FYR 81-11

January 23, 1981

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

Attention: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing

References: (a) License No. DPR-3 (Docket No. 50-29)
(b) USNRC Letter to YAEC dated January 2, 1981
(c) YAEC Letter to USNRC dated November 19, 1979 (WYR 79-141)
(d) YAEC Letter to USNRC dated December 31, 1979 (WYR 79-163)
(e) YAEC Letter to USNRC dated September 27, 1974 (WYR 74-27)

Dear Sir:

Subject: Additional Information on TMI Category "A" Lessons Learned Item
2.1.3.b

Reference (b) requested additional information on the four one-inch loop relief valves located on the main coolant loop bypass line.

All primary system safety and relief valves were evaluated by Yankee Atomic Electric Company prior to making our response to NUREG-0578 in References (c) and (d). That evaluation resulted in acoustic monitors being located on the discharge piping from the two pressurizer safety valves and the power operated relief valve (PORV). It is the purpose of these three valves to operate, as required, in conjunction with the reactivity control system to limit system overpressure during anticipated operational transients or accidents, or an event similar to TMI. Installation of the acoustic monitors has been accomplished and provides the operator with a positive indication of the valve position (open or closed) and more importantly, allows the operator to quickly detect, in the event of a stuck open valve, a potential cause of rapid depressurization and water inventory loss in the main coolant system.

The one-inch loop relief valves installed in each of the four loops, however, serve a different purpose; their purpose is to provide for individual loop overpressure protection resulting from primary water expansion while operating with an isolated loop (both loop isolation valves closed). This water expansion could be caused by operating a main coolant pump with the loop isolated or by injecting hot feedwater into the steam generator when the main coolant is cold, neither of which is considered an operational transient or

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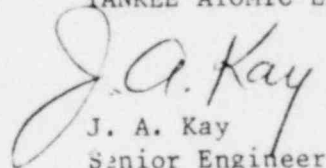
accident, and certainly does not create an event similar to TMI. Note that the main coolant pump start circuit has an interlock which permits pump start only with the cold leg loop isolation valve closed and the loop bypass valve open. Yankee Rowe is not currently licensed to operate with one loop isolated.

Furthermore, the loop relief valves do not operate as the PORV and safety valves do. The set pressure on these relief valves is 2735 psig which is 335 psi above the PORV setpoint and 175 psi and 250 psi above the setpoint on the high and low set pressurizer safety valves respectively. Since normal operating pressure at Yankee Rowe is 2000 psig, 735 psig below the valve setpoint, relief valve operation is very unlikely. In fact, these valves have never been challenged in 20 years of operation at Yankee Rowe. In addition, the loop relief valves are small and sized for 90 GPM flow at 2735 psig (see Reference (e) page 2.3-1). Even in the highly unlikely event where a loop relief valve is stuck open, depressurization of the main coolant system does not occur because the water inventory loss is within the capabilities of the Yankee Rowe charging system.

The above discussion reviews the technical evaluation which resulted in our decision not to install flow indication on these individual loop relief valves. We believe that with the as installed acoustic monitoring system, the intent of NUREG-0578 and the clarification letter has been met. If you have any further questions, please contact us.

Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY


J. A. Kay
Senior Engineer
Licensing

JAK/sec