UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST FOR RELIEF FROM CERTAIN REQUIREMENTS OF SECTION XI OF THE

ASME BOILER AND PRESSURE VESSEL CODE

TOLEDO EDISON COMPANY

AND

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

DOCKET NO. 50-346

1. BACKGROUND

The NRC staff has identified the reactor coolant system (RCS) vents as an extension of the reactor coolant pressure boundary and as such they must meet applicable inservice inspection requirements described in 10 CFR 50.55a(g). Further, ASME Boiler and Pressure Vessel Code, Section XI of the 1977 Edition through the Summer 1978 Addenda, requires quarterly stroke testing of the high point vent valves.

By letter dated March 22, 1985 (Serial No. 1123), Toledo Edison Company (the licensee) requested relief from certain testing requirements contained in Section XI of the ASME Boiler and Pressure Vessel Code, 1977 Edition through Summer 1978 Addenda (the Code), for pressurizer and RCS high point vent valves. Alternative testing was proposed.

2. DESCRIPTION OF REQUESTED RELIEF AND PROPOSED ALTERNATIVE TESTING

Subsection IWV of the Code requires that RCS and pressurizer high point vent valves be classified as Category B, active valves and specifies that such valves be stroked quarterly. The licensee seeks relief from quarterly stroke testing and proposes instead that the RCS and pressurizer high point vent valves be full stroke tested during each cold shutdown lasting more than 72 hours, but not more frequently than once every three months.

3. EVALUATION

The RCS and pressurizer vent valves at Davis-Besse, RC-11, RC-200, RC-239A, SV4608A and B, and SV4610A and B, serve two active functions:

1. The vents may be used to exhaust noncondensible gases and/or steam from the primary system that could inhibit natural circulation core cooling.

2. The vents may also be used to enhance core cooling by reducing primary pressure and enhancing High Pressure Injection and/or Makeup Flow.

In addition, valve RC-11 functions as the Pressurizer Power Operated Relief Valve (PORV) block valve.

The RCS vent valves, SV4608A and B, and SV4610A and B, vent directly to containment atmosphere. As such, cycling these valves during other than cold plant conditions could result in the release of primary coolant at an excessive rate to the containment atmosphere. The pressurizer vent path through valves RC-200 and RC-239A vents to the Pressurizer Quench Tank (PQT). As such, cycling these valves during other than cold conditions could result in the release of primary coolant at an excessive rate to the PQT possibly causing the PQT rupture disk to fail and releasing primary coolant to the containment atmosphere. This fact is reflected in Generic Letter 83-37 dated November 1, 1983, and entitled, "NUREG-0737 TECHNICAL SPECIFICATIONS." This document, sent to all pressurized water reactor licensees, provided guidance on Technical Specifications on, among other things, RCS vents. This guidance suggests that RCS vent paths (including pressurizer vents) be demonstrated operable at least once every 18 months by cycling each vent valve in the vent path through at least one complete cycle of full travel during cold shutdown or refueling. The licensee's proposed alternate testing for RC-200, RC-239A, SV4608A and B and SV4610A and B, consisting of valve stroking during each cold shutdown of greater than 72 hours, but not more frequently than once every three months, is conservative with respect to the guidance provided in Generic Letter 83-37 and is acceptable to the NRC staff.

As stated earlier, valve RC-11 functions as the PORV block valve and is open during normal plant operations. Cycling the valve would not increase the possibility for release of primary coolant under conditions when the PORV is operable. If the PORV is inoperable, the block valve would be closed and would remain closed. Further, the safety significance of the PORV block valves is considered important enough such that they are specifically included in Standard Technical Specifications for Babcock and Wilcox Pressurized Water Reactors (NUREG-0103, Revision 4). The specification requires that the PORV block valve be demonstrated operable by operating it through one complete cycle of full travel once every 92 days in Modes 1, 2 and 3. Based on the reasons cited above, we have determined that the block valve function takes precedence over the venting function; the licensee's request for relief from quarterly stroke testing of RC-11 is denied.

4. CONCLUSION

We have concluded, based on the considerations discussed above, that granting of relief is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest giving due consideration to the burden that could result if the requirements were imposed on the facility. The relief request denied by the NRC staff requires compliance with Code requirements.

Dated: March 6, 1986

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