



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 72 TO FACILITY OPERATING LICENSE NO. NPF-3

TOLEDO EDISON COMPANY

AND

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

DOCKET NO. 50-346

Introduction

By letter dated May 2, 1983, Toledo Edison Company (TED) transmitted a Technical Specification Change Request to amend Appendix A of Facility Operating License NPF-3. The change under consideration is item three in the letter of application concerning revision to Table 3.6-2, Containment Isolation Valves. The requested change is to permit cycle testing of the Main Steam Isolation Valves (MSIV) in Mode 4, Hot Shutdown instead of Mode 5, Cold Shutdown.

Evaluation

The MSIVs are installed in the two main steam lines between the steam generators (SG) and the turbine to provide isolation of the SG in the event of a steamline break. Automatic closure of the MSIVs is initiated by either the Safety Features Actuation System (SFAS) upon a High-High containment pressure or by the Steam and Feedwater Rupture Control System (SFRCS) upon low pressure in a steam line or upon a high differential pressure between the steam generator and the main feedwater. Closure isolates the SG to maintain it as a heat sink and also to isolate the steam line as a part of the containment integrity. In this latter case the main steam lines along with the feedwater lines are considered Type III containment penetrations since they are not a part of the reactor coolant boundary (Type I) and are not connected directly to the containment vessel atmosphere (Type II). The MSIVs can also be closed by manual push button.

Automatic closure of the MSIVs by the SFRCS can be bypassed below 650 psig (498°F) during shutdown. The bypass is automatically removed during startups when the pressure exceeds 650 psig (Technical Specification (TS) Table 3.3-11). Per TS Section 3.3.2.2, the SFRC system operation is required only in Modes 1, 2 and 3, and therefore, the instrumentation which initiates MSIV closure by the SFRCS is only required to be operable in Modes 1, 2 and 3.

The other automatic closure of the MSIVs by the SFAS is initiated by High-High Containment Pressure (38.4 psia). The instrumentation system that actuates this closure is required to be operable only in Modes 1, 2 and 3 (Table 3.3-3 TS Section 3.3.2.1).

Operability of the MSIVs is specified in TS Section 3.6.3, Containment Isolation Valves. This TS requires the MSIVs to be operable in Modes 1, 2, 3 and 4. Operability must be demonstrated prior to returning the valve to service after maintenance, repair, or replacement and at least once every 18 months during Cold Shutdown (Mode 5) or Refueling Mode (Mode 6).

TED has indicated in their application that performing the surveillance tests on the MSIVs in Modes 5 and 6 when no steam is present to lubricate the MSIV piston rings and cylinder bore could damage the valve. A previous TS change, Amendment 3, has permitted surveillance of the atmospheric vent valves (ICS 11A and 11B) to be made in Mode 4 prior to entering Mode 3 to prevent valve damage. This change was permitted because the vent valves were normally closed and only opened during the operability test and also by the fact that TED, by letter dated April 7, 1977, had committed to have the Decay Heat Removal System (DHRS) in operation while in Mode 4. In Mode 4, the average coolant temperature is maintained between 200 and 280°F which corresponds to a maximum pressure of 35 psig. With the facility on the DHRS, the maximum coolant pressure that can be attained before automatic pressure relief is 320 psig. Thus in Mode 4 the reactor coolant is maintained less than 35 psig by administrative control, and by an engineered safety feature, to less than 320 psig, well below the 650 psig pressure where the SFRCs is automatically unbypassed.

In Mode 4 the SGs are not needed as a heat sink and the main steam lines are isolated by the turbine stop and governor valves so that any reactor coolant leakage into the secondary system would be contained within the main steam lines without operation of the MSIVs. Therefore, we agree that this Technical Specification change is not an unreviewed safety question and does not decrease the safety at the facility since the automatic closure of the MSIVs is not necessary in Mode 4.

Environmental Consideration

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. We have determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that:
(1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Dated: July 20, 1984

The following NRC personnel have contributed to this Safety Evaluation:
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