



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 208 TO FACILITY OPERATING LICENSE NO. NPF-3

TOLEDO EDISON COMPANY

CENTERIOR SERVICE COMPANY

AND

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

DOCKET NO. 50-346

1.0 INTRODUCTION

By letter dated March 6, 1996, the Toledo Edison Company, Centerior Service Company, and the Cleveland Electric Illuminating Company (the licensees), submitted a request for changes to the Davis-Besse Nuclear Power Station (DBNPS) Technical Specifications (TS). This proposed amendment would revise TS 3/4 5.2, ECCS SUBSYSTEMS - T_{avg} $\geq 280^{\circ}\text{F}$ by modifying Surveillance Requirement (SR) 4.5.2.b to defer venting of the Emergency Core Cooling System (ECCS) flow path which does not have manual venting capability until the tenth refueling outage.

2.0 EVALUATION

Operability of an ECCS flow path requires one operable high pressure injection (HPI) pump, one operable low pressure injection pump, one operable decay heat cooler, and an operable flow path capable of taking suction from the borated water storage tank on a safety injection signal and manually transferring suction to the containment sump during the recirculation phase of operation. SR 4.5.2.b requires at least once per 18 months, or prior to operation after ECCS piping has been drained, verification that the ECCS piping is full of water by venting the ECCS pump casings and discharge piping high points. As stated in the Safety Evaluation Report (SER) related to operation of Davis-Besse Nuclear Power Station, Unit 1, NUREG-0136, issued in December 1976, manual vents are provided at the ECCS pump casing and discharge piping high points. Additionally, the SER states the plant TS will require the ECCS system piping be verified as full by observation prior to startup and venting be a periodic SR. Supplement No. 1 to the SER issued April 1977, specifically states that an SR in the TS verify that the ECCS piping is water solid to minimize the potential for water hammer, and references TS page 3/4 5-4 as meeting this requirement. This TS page includes SR 4.5.2.b. The TS required venting of the high points every 31 days.

Three of the ECCS flow paths had manual vent valves installed at the high points of the pump discharge piping to fulfill SR 4.5.2.b. The fourth line had the

makeup pump discharge piping joining the HPI pump discharge flow path at the high point of the discharge piping. Since the makeup system is used frequently and would provide a means to sweep noncondensibles from the flow path, the licensees determined that a manual high point vent was not required. On July 2, 1980, Amendment 25 was issued which granted the licensees' request to extend the surveillance interval to every 18 months. During the 1990 refueling outage, the licensees performed a modification that relocated and redesigned the makeup discharge piping to another ECCS flow path line. The modification cut and capped the existing connection to the original flow path however, the modification did not install manual venting capability.

On March 4, 1996, during research for a future licensing amendment request, the licensees discovered that not having a manual vent valve put them in literal noncompliance with the SR. This discovery was documented and evaluated. The licensees performed ultrasonic testing which verified that the piping was full except for a small volume of noncondensable gases in the capped line previously used as the connection to the makeup pump discharge piping. To ensure compliance with the TS, the licensees submitted a proposed change to add a footnote to the SR which states, "The requirements of this surveillance may be deferred until the tenth refueling outage for the ECCS flow path which does not have manual high point venting capability." The basis for the proposed change is the alternate verification performed (ultrasonic testing) which documents that the line is filled.

The Standard Technical Specifications Babcock and Wilcox Plants, NUREG-1430, Revision 1, issued April 1995, includes SR 3.5.2.3 to "Verify ECCS piping is full of water." Both the SR and the basis for the SR are performance based and not prescriptive on how the licensee is to perform the verification.

Based upon the testing performed to ensure the SR intent is met, the staff concluded that the proposed change is acceptable.

3.0 EMERGENCY CIRCUMSTANCES

During the preparation of a license amendment request to extend surveillance intervals from 18 months to 24 months, the licensees determined that they did not literally comply with the requirements of the TS for venting of one of the flow paths from HPI pump 1-2 because a manual vent was not installed in the line. A corrective action report was initiated on March 4, 1996, ultrasonic testing of the high point of the flow path was performed on March 6, 1996, and a request for an emergency TS amendment was submitted on March 6, 1996. The results of the ultrasonic testing verified that the pipe was essentially fluid filled. The amount of noncondensable gas present was well within volumes calculated, for the other three flow paths, to ensure that actuation of the HPI pumps would not impose unacceptable forces on the piping and elbows contained in the flow path.

The licensees completed the testing to verify the actual conditions in the flow path and submitted the amendment request in a timely manner, and requested emergency processing so that plant shut down would not be required since alternate means of satisfactory verification of the fluid filled condition of the HPI flowpath was performed. Throughout this process, the licensee acted promptly and

kept the staff informed regarding the status of its activities. The staff has concluded that an emergency situation exists in that failure to act in a timely manner will result in an unnecessary plant shut down and that the licensees could not avoid the emergency situation once the condition was identified. Therefore, pursuant to 10 CFR 50.90(a)(5), this request is being handled on an emergency basis.

4.0 BASIS FOR FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

As required by 10 CFR 50.91(a), the licensees have provided their analysis of the issue of no significant hazards consideration. The NRC staff has reviewed the licensees' analysis against the standards of 10 CFR 50.92(c). The staff's review is presented below.

Since the licensees' have determined by an alternate means of verification that a significant volume of noncondensibles has not accumulated, operation of the facility under the proposed amendment would not involve a significant increase in the probability or consequences of an accident previously evaluated.

The purpose of the SR is to verify that the flow path does not contain noncondensibles to ensure that previously identified accident scenarios are minimized. The previously identified accidents, namely water hammer and pumping of noncondensable gas into the reactor vessel, are the only credible accidents that could result from having noncondensibles in the pump discharge flow path. Therefore, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Since the licensees have determined by an alternate means of verification that a significant volume of noncondensibles has not accumulated, this change does not involve a significant reduction in a margin of safety.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Ohio State official was notified of the proposed issuance of the amendment. The State official had no comments.

6.0 ENVIRONMENTAL CONSIDERATION

This amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes a surveillance requirement. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluent that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has made a final no significant hazards consideration finding with respect to this amendment. Accordingly, the 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 the amendment.

7.0 CONCLUSION

The staff has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Date: March 7, 1996