



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

TOLEDO EDISON COMPANY

DAVIS BESSE NUCLEAR POWER STATION (DBNPS)

MATERIALS AND CHEMICAL ENGINEERING BRANCH

DIVISION OF ENGINEERING TECHNOLOGY

(TAC NO. 75131)

INTRODUCTION

In a letter dated January 15, 1990 the Toledo Edison Company (the licensee) requested that the staff approve a revised capsule withdrawal schedule for the Babcock & Wilcox Master Integrated Surveillance Program (BWMISP). The DBNPS is a host reactor for the BWMISP. As a host reactor the DBNPS reactor is used to irradiate surveillance materials for plants participating in the BWMISP. The capsule withdrawal schedule for the BWMISP is documented in Babcock & Wilcox (BW) Topical Report BAW-1543. Revision 3 to this topical report was submitted for staff review in a letter from J.H. Taylor to T.E. Murley, dated October 12, 1989. Errata Tables 3-20 and E-1 to BAW-1543, Revision 3 were submitted for staff review in a letter from D.L. Howell to B.J. Elliot dated January 10, 1990. These errata tables documented the changes to the insertion and withdrawal schedule for the BWMISP surveillance capsules in the DBNPS reactor.

DISCUSSION

Appendix H, 10 CFR 50, indicates that the surveillance capsule withdrawal schedule should comply with ASTM E 185-82 unless an alternative schedule is approved by the staff. ASTM E 185-82 recommends that surveillance capsules should be withdrawn from the reactor when the neutron fluence received by the capsule reaches a specified amount. The revised program documented in errata Tables 3-20 and E-1 will withdraw the fifth capsule (AN1-D) for Arkansas Nuclear One, Unit 1, and the fourth capsule (TE1-D) from DBNPS at a neutron fluence approximately equal to the end of life (32 effective full power years) neutron fluence for the limiting beltline welds at the inside surface of their reactor vessels. These capsules will be withdrawn during the DBNPS sixth refueling outage. The early removal of these capsules was necessary because the plants had implemented "Low Leakage" core configurations. "Low Leakage"

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core configurations reduce the neutron fluence at the inside surface of the limiting beltline weld. Since the revised core configuration reduces the neutron fluence, the capsules must be withdrawn earlier to reduce their neutron fluence. During the DBNPS sixth refueling outage, capsules A1, A3, L1 and L2 will be inserted into the DBNPS reactor vessel. These capsules contain weld metal with high copper content, which will be used to supplement the neutron irradiation material data for plants participating in the BWMISP.

CONCLUSIONS

1. As a result of withdrawal of capsules AN1-D and TE1-D during the DBNPS sixth refueling outage, these capsules will receive a sufficient amount of neutron fluence to satisfy the recommendations of ASTM E 185-82.
2. In accordance with errata Tables 3-20 and E-1 of BAW 1543, Revision 3, it is acceptable to withdraw capsules AN1-D and TE1-D and to insert capsules A1, A3, L1 and L2 during the DBNPS sixth refueling outage.

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