Nebraska Public Power District

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NLS970070
April 17, 1997

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Gentlemen:

Subject: Additional Information Supporting Request for Revision of Reactor Vessel Surveillance Capsule Withdrawal Schedule Cooper Nuclear Station, NRC Docket 50-298, DPR-46

References: 1) Letter to U. S. Nuclear Regulatory Commission (NRC) from P. D. Graham (NPPD) dated December 13, 1996, "Request for Revision of Reactor Vessel Surveillance Capsule Withdrawal Schedule."

2) Letter to G. A. Trevors (NPPD) from W. O. Long (NRC) dated April 26, 1988, "Cooper Nuclear Station - Amendment No. 120 to Facility Operating License No. DPR-46 (TAC 65793)."

3) Letter to U. S. Nuclear Regulatory Commission from G. R. Horn (NPPD) dated June 7, 1991, "Response to Questions on License Extension to 40 Years from Operating License Issuance."

4) Letter to G. R. Horn (NPPD) from P. W. O'Connor (NRC) dated July 5, 1991, "Cooper Nuclear Station - Amendment No. 143 to Facility Operating License No. DPR-46 (TAC No. 74843)."

By letter dated December 13, 1996 (Reference 1), the Nebraska Public Power District (District) requested NRC approval of a revision to the schedule for withdrawal of Cooper Nuclear Station (CNS) reactor vessel material surveillance specimens required as part of the surveillance program of 10 CFR 50, Appendix H. Pursuant to several discussions held with the NRC staff subsequent to that submittal, the District provides its response to the following two questions in support of its request.

A008

Question 1

To which edition of ASTM Standard E185 is Cooper required to comply in their licensing basis?

Response

CNS Technical Specification 4.6.A.3 requires that the CNS reactor vessel material surveillance "...specimens and sample program shall conform to ASTM E 185-73 to the degree possible," except that with regard to withdrawal of the reactor vessel material surveillance capsules, CNS Technical Specification 4.6.A.3 states:

> "The reactor vessel surveillance capsules shall be removed and examined to determine changes in their material properties as required by Appendix H."

10 CFR 50 Appendix H states that the withdrawal schedule must meet the requirements of the edition of ASTM E 185 that is current on the issue date of the ASME Code to which the reactor vessel was purchased. As discussed in Reference 1, CNS was designed and fabricated to the Winter 1966 Addenda of the 1965 ASME Code. ASTM E 185-66 was the applicable standard at that time, which recommended withdrawal of specimens at three or more separate times, with one capsule corresponding to exposure near the end of vessel design life.

However, in Amendment No. 120 (Reference 2), the NRC recommended that the District consider reconstitution of a fourth capsule to meet, to the extent practicable, the requirements of ASTM E 185-82. Subsequently, in response to a request for additional information pursuant to a license amendment request to extend the CNS operating license to 40 years from the date of license issuance (Reference 3), the District committed to reconstitute and install a fourth surveillance capsule. The District also indicated that the withdrawal schedule for the third capsule should be based on the results of testing and analysis of the specimens contained in the second capsule. The NRC granted the District's requested license extension in Amendment No. 143 (Reference 4). In the accompanying Safety Evaluation, the NRC noted it was acceptable to adjust the withdrawal schedule for the original third capsule based on analysis of the specimens contained in the second capsule. Therefore, since the District is acting in accordance with the NRC's safety evaluations for both Amendments No. 120 and 143, it is the District's position that the request detailed in Reference 1 is in accordance with the CNS licensing basis.

Question 2

What vessel wall depth (vessel ID of 1/4T) has been used previously for determining the "calculated exposure of the reactor vessel wall," for use in determining the appropriate withdrawal schedule in accordance with the applicable ASTM standard?

Response

Withdrawal of the first reactor vessel material surveillance capsule was based on the CNS Technical Specifications existing at that time, which indicated that the first capsule should be removed at "1/4 service life." Based on this requirement, the first capsule was removed during the 1984 refueling outage, following nine cycles of operation. This was based on ten years of operation and an assumed 40-year service life.

The schedule for withdrawal of the second capsule, as discussed in Reference 1, was based on the safety evaluation supporting Amendment 120, which recommended removal at 12 EFPY. EFPY is calculated based on the cumulative thermal energy generated divided by the thermal energy which would be generated assuming operation at 100% of the licensed thermal power level for a full year. Therefore, removal of the second capsule was not based on estimated fluence of either the inside vessel surface or at the 1/4 T vessel wall depth.

As indicated in the above responses, the District concludes that its previous reactor vessel material surveillance capsule withdrawals were performed in accordance with the CNS licensing basis as it was defined at those times. Further, the District concludes that the proposed revision to the withdrawal schedule detailed in Reference 1 is in accordance with the existing CNS licensing basis. The District requests NRC approval of the proposed revision to support restart from its current refueling outage.

Should you have any questions concerning this matter, please contact me.

Sincerely,

P. D. Graham
Vice President - Nuclear

MJB/mjb
Attachment

cc: Regional Administrator
USNRC - Region IV

Senior Project Manager
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector
USNRC

NPG Distribution

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The following table identifies those actions committed to by the District in this document. Any other actions discussed in the submittal represent intended or planned actions by the District. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the Licensing Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

COMMITMENT	COMMITTED DATE OR OUTAGE
None	