



Nebraska Public Power District

COOPER NUCLEAR STATION
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NSD940203
February 18, 1994

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Subject: Service Water System Corrosion Action Plan Update
Cooper Nuclear Station
NRC Docket No. 50-298, License No. DPR-46

Reference: Letter from G. R. Horn (NPPD) to Mr. James L. Milhoan
(NRC-Region IV) dated July 16, 1993, "Completion of Issues
Related to Unit Startup"

Gentlemen:

In the reference letter, the District provided information regarding a Corrosion Action Plan established to address a throughwall leak discovered in a sample return line in the Service Water System at Cooper Nuclear Station (CNS). The Action Plan included steps to identify the corrosion mechanism and to determine future activities concerning the control and monitoring of the identified corrosion mechanism in the CNS Service Water piping. Since the reference letter was submitted, additional testing has verified that Microbiologically Induced Corrosion (MIC) was involved in causing the throughwall leak. It has also been determined that the service water piping appears to be most susceptible to MIC in regions of low or intermittent flow.

The District has incorporated new actions into the Corrosion Action Plan to specifically address the occurrence of MIC at CNS. This letter provides an update to our Corrosion Action Plan to inform you of the actions being taken or planned toward assuring the Service Water System will continue to be able to perform its intended functions under both normal and accident conditions. The following is a description of these new actions and a schedule for completion for those yet to be fully implemented:

- 1) Periodic walkdowns of the Service Water System are taking place to visually inspect piping for evidence of any throughwall leakage which may be indicative of MIC damage. Primary emphasis of these walkdowns is on sections of piping that are most susceptible to MIC. Any instance of throughwall leakage identified will be entered into the Corrective Action program for resolution.

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U. S. Nuclear Regulatory Commission

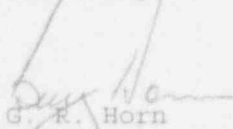
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- 2) The CNS erosion/corrosion program will be augmented to include service water piping potentially susceptible to MIC. This will be completed in September, 1994, and will include those piping sections examined per the CNS Corrosion Action Plan and any other piping sections deemed particularly susceptible to MIC.
- 3) The procedure for heat exchanger inspection and cleaning is being enhanced to provide for more detailed inspections and documentation of inspections of the water box and existing water box coatings. The procedure revision will be completed in April, 1994.
- 4) Controls will be established to insure that any time a Service Water System component is opened for maintenance, the component internals will be inspected for MIC related degradation. The Procedural Controls will be completed in September, 1994.
- 5) The operation of various portions of the service water system that are normally left in a stagnant condition will be evaluated for conversion to continuous flow. Industry experience has found this abatement method to be very effective. This evaluation will be completed in October, 1994.
- 6) A study will be performed to evaluate the merits of adding a biocide injection system to the service water system based on the experience with the CNS service water piping to date. The use of oxidizing as well as non-oxidizing biocides will be evaluated. This evaluation will be completed in November, 1994.

We believe the Corrosion Action Plan including the elements discussed above will identify, address, and mitigate, if not prevent instances of MIC at CNS. Should you have questions or would like additional information about the Corrosion Action Plan provided above, please call.

Sincerely,



G. R. Horn
Vice President - Nuclear

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cc: Regional Administrator
USNRC - Region IV

NRC Resident Inspector
Cooper Nuclear Station