



# Nebraska Public Power District

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February 27, 1991

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

Subject: Alternate Rod Injection (ARI) System Diversity  
Cooper Nuclear Station  
NRC Docket No. 50-298, DPR-46

Reference: Letter from T. P. Gwynn (NRC) to G. A. Trevors (NPPD) dated January 8, 1991, Implementation of Alternate Rod Injection System (ARI) Diversity Requirements in 10CFR50.62 (ATWS Rule) for Boiling Water Reactors (BWRs)

Gentlemen:

The subject letter requested the Nebraska Public Power District (the District) to review and confirm in writing that the ARI system, as installed at Cooper Nuclear Station, conformed to the staff's position regarding diversity of the trip units between the ARI and the Reactor Trip System (RTS). Relevant portions of NRC documents were enclosed in the reference to provide additional information on the subject to aid in our review.

The diversity of trip units between the RTS and the ARI system installed at Cooper Nuclear Station complies fully with the staff position documented in the reference. This conclusion is based on a review of the installed ARI and RTS components and configurations against the staff position on diversity of the two systems from the sensor output to the final actuation device. Some features of the ARI system that ensure its diversity from the RTS include the following:

- 1) The ARI initiation signals come from different sensing instrumentation than that for the RTS. The ARI sensing instrumentation are not presently analog devices that were the focus of the recent Boiling Water Reactors Owners' Group appeal regarding ARI diversity requirements.
- 2) ARI wiring and cables are routed separately from either the Division I or Division II wiring for the RTS.
- 3) The ARI logic and its actuating devices on the scram air header are separate and different from those used in the RTS.
- 4) ARI instrumentation and controls are physically separate from the RTS components in the control room.

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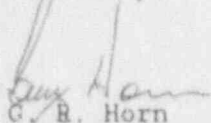
Document Control Desk  
February 27, 1991  
Page 2

- 5) The ARI system controls, instrumentation, and actuating valves are DC powered to provide electrical independence from the AC powered RTS.

Because the applicable equipment at Cooper Nuclear Station conforms to the staff's position on this matter, no modifications to the ARI system are necessary nor is a request for relief from the diversity requirements needed.

If there are any questions about the above, please call.

Sincerely,



G. B. Horn  
Nuclear Power Group Manager

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cc: Regional Administrator  
USNRC - Region IV

NRC Resident Inspector  
Cooper Nuclear Station