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AMERICAN ELECTRIC POWER

AEP:NRC:1060E

Donald C. Cook Nuclear Plant Unit No. 2
Docket No..50-316
License No. DPR-74
NRC INSPECTION REPORT NO. 50-316/88012(DRS); RESPONSE TO NOTICE OF VIOLATION - SUPPLEMENTAL INFORMATION

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Attn: A. B. Davis

August 17, 1988

Dear Mr. Davis:

This letter transmits supplemental information to our June 24, 1988, response (AEP:NRC:1060D) to the Notice of Violation attached to the subject Inspection Report. Our original response addressed the specific issue of the subject report. This supplement expands upon that response to address a broader perspective of our design change control activities associated with the Cook Nuclear Plant.

The attachment to this letter provides a description of the reviews conducted subsequent to our June 24, 1988, response, summarizes the results achieved, and actions being taken to strengthen our design change control process. We believe this response fully addresses the concerns raised by your staff, and that our actions will prevent recurrence of the cited violation.

This document has been prepared following Corporate procedures which incorporate a reasonable set of controls to ensure its accuracy and completeness prior to signature by the undersigned.

Sincerely,

M. P. Alexich
Vice President

MPA/eh

Attachment

IE01
1/1

cc: D. H. Williams, Jr.
W. G. Smith, Jr. - Bridgman
R. C. Callen
G. Bruchmann
G. Charnoff
NRC Resident Inspector - Bridgman
A. B. Davis - Region III

ATTACHMENT TO AEP:NRC:1060E

RESULTS OF DESIGN CHANGE CONTROL ACTIVITY REVIEW

Background

In 1985, an inter-unit crosstie was added to the chemical and volume control system (CVCS) between the discharge headers of the respective units centrifugal charging pumps. In welding Type 316 stainless steel pipe in the CVCS crosstie, Type 308L filler metal was used instead of the Type 316 filler that was called for in the welding procedure specification. This substitution of weld material was determined to be acceptable by the AEPSC Cognizant Engineer - Welding. However, the basis for this determination was not documented.

The substitution of weld material was the subject of the Notice of Violation contained in NRC Inspection Report 50-316/88012(DRS). Specifically, the Notice of Violation cited a violation of 10 CFR 50, Appendix B, Criterion III in that the weld material substitution was made without an adequate engineering review. Our original response to the cited violation addressed the specific issue of lack of documentation for the acceptability of the CVCS crosstie welds and the actual technical adequacy of the welds themselves. Our response did not address the more general NRC concern of whether or not adequate engineering reviews were being performed in cases in which deviations from approved design documents were made.

With specific regard to the substitution of weld material in the CVCS crosstie welds, the NRC stated that they were also concerned that an interdisciplinary engineering review should have been performed, including an evaluation of the allowable stresses in the CVCS crosstie.

Action To Prevent Recurrence

The following discussion describes the actions we are taking to address the broader NRC concerns mentioned above.

The results of our review of this violation and our subsequent reviews to determine root cause indicated the need for strengthening our process for controlling and documenting design changes.

Plant procedures have been implemented which require maintenance personnel to obtain approval for design changes that may become necessary during performance of any job order. These plant design change procedures were significantly strengthened in 1986 to include installation deviation controls. For a design change deviation outside the acceptable tolerances, a design change deviation request (DCDR) must be completed and the change approved by a cognizant engineer. Further, we will revise our corporate design change control and corrective action procedures to

explicitly require that an engineering review of deviations from approved design be fully documented and provided to the plant. The engineering review will include necessary interdisciplinary evaluations in order to address technical areas potentially affected by a particular deviation from approved design documents. The engineering review will be retained in the final design change, corrective action or job order packet. We believe that implementation of these procedural changes in addition to the increased management attention that has been focused on this issue will ensure that the deficiencies noted herein will not recur.

Additional Weld Records Review

In view of the lack of documentation of the acceptability of deviating from the welding procedure specification (WPS) for the CVCS crosstie welds, actions were taken to assess the extent to which this same documentation deficiency existed in welding records for other welds. Our initial effort was to review a number of maintenance job orders involving welds in systems that occurred between 1982 and 1988. Specifically, we reviewed 76 welding job orders which contained approximately 250 weld records to determine if engineering approval of deviations had been given without a documented engineering review. We identified 23 deviations from the WPS specified in the job orders which had no engineering approval. Sixteen of these deviations involved the substitution of Type 308L filler metal. The other seven deviations were inconsistencies in the documentation. An engineering evaluation was performed by the AEPSC Cognizant Engineers, Welding, and the Piping HVAC and Fire Protection Section, which concluded that all 23 of the deviations are technically acceptable as-is in the systems in which they are installed.

Because of these deviations, we expanded our review to include additional welding job orders. This expanded review consisted of randomly pulling welding job orders such that 59 additional deviations were identified. At this time we have completed the weld record search. Through engineering evaluations, we will evaluate the technical acceptability of these welds in the systems in which they exist. We believe the sample size (over 700 weld records were examined) we have accumulated through our random sampling process is adequate to reasonably assess the overall technical acceptability of welds in Cook Nuclear Plant safety systems for those instances in which deviations from the approved WPS were made. Our initial assessment of these deviations are that they are similar in nature to the 23 previously evaluated and

accepted. We believe that the scope of the cited problem is limited to administrative deficiencies and Type 308L weld rod substitutions.

We have also initiated a review of Problem Reports (i.e., nonconformance reports) written since November 1986 to determine the existence of documentation deficiencies in other engineering/ maintenance areas. The Problem Report program covers all engineering disciplines. Approximately 1,800 Problem Reports have been written since October 1986. Our review has identified approximately 45 Problem Reports which involve the disposition of "use as-is" for deviations from design documents. We are now evaluating whether or not documented engineering evaluations were completed, which would justify the "use as-is" dispositions.

Should any of our evaluations conclude that a significant design deficiency exists in the Cook Nuclear Plant, we will initiate the appropriate actions and so notify the NRC. We will also document an engineering evaluation, including a justification for "use as-is", for all cases we identify as not being previously documented.