Nebraska Public Power District

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December 3, 1982

Mr. John T. Collins
Regional Administrator
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza, Suite 1000
Arlington, Texas 76011

Dear Mr. Collins:

Subject: Mark I Modification Steel Problem Investigation
Progress Report - Cooper Nuclear Station
NRC Docket No. 50-298, DPR-46

Reference: (1) J. M. Pilant to John T. Collins, LQA8200192, dated October 11, 1982

(2) J. M. Pilant to John T. Collins, LQA8200199, dated October 20, 1982

(3) J. M. Pilant to John T. Collins, dated November 5, 1982

By the referenced letters, NPPD has identified and reported on a steel plate problem involving the Mark I Modification Program. The investigations and testing programs for the evaluation of this problem have been completed. The purpose of this letter is to identify the final results and corrective actions.

I. INTRODUCTION

References (2) and (3) defined the scope of the problem and reported on the various stages of the evaluation process. The problem was determined to be the use of certain plate material in the Torus Attached Piping (TAP) supports which did not meet the specifications for A-36 steel. In addition, it was identified that the steel vendor, Paxton and Vierling Steel Company (PVS) had not maintained the required material traceability. Evaluations indicated there was no short-term concern for plant safety resulting from this problem. Plans were outlined for resolving the problem and identifying necessary corrective actions.

II. CURRENT STATUS

There are a total of 45 different items on the subject TAP purchase orders from PVS. A material test program, described in Reference (3) involving all available TAP support items (30 different specimens), has been completed. The test program consisted of performing chemical, physical, and macro-etching tests.

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The test results showed all chemical properties were within the specification limits. The macro-etching results were all completely acceptable. The physical properties (yield strength, ultimate strength, elongation and reduction-in-area) were acceptable with the exception of the following minor deviations.

1. One specimen of 1/4" plate had an ultimate strength 2.5% below the specification minimum.

2. One specimen of 2" plate had a yield strength 11% below the specification minimum.

3. One specimen of 1/2" plate had an ultimate strength 2% above the specification maximum.

The first and third items are being generically justified. The ultimate strength does enter into the support allowable stress values except for level D loads. The worst case support for level D loads is being identified and qualified. The slight exceedance of the maximum ultimate is a negligible variation since the elongation was acceptable and showed the material to be ductile. The second item only affects two supports. These supports are being requalified based on the actual as-built material strengths.

The test program results, with above evaluations, is considered to resolve all concerns regarding the traceability problems on TAP material identified in the audit of PVS.

Regarding the laminated plate concerns, the rework defined in Reference (3) to correct the supports containing plate with suspected laminations is in progress. The current schedule is to complete this rework in late December or early January, 1983.

Completion of the rework and the documentation of the various structural reevaluations for as-built material properties represent the final actions considered necessary. Therefore, this report is the final NPPD submittal to the NRC on this subject. A complete, auditable report documenting the evaluations, results, and corrective actions for this problem will be on file at NPPD after February 1, 1983.

Should you have any further questions or comments, please contact me.

Sincerely,

J. M. Pilant
Division Manager of
Licensing & Quality Assurance

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