

INTERIM REPORT
POTENTIAL REPORTABLE DEFICIENCY
ARIZONA PUBLIC SERVICE COMPANY (APS)
PVNGS UNITS #1, #2 and #3
JUNE 26, 1980

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I Potential Problem

During a project discipline design review, it was discovered that some fillet welds for structural steel are undersized with respect to AWS D1.1 and AISC requirements (AISC, November 1, 1978, Table 1.17.2A; AWS D1.1-75, Section 2.7.1.1). The AWS D1.1 and AISC requirements were developed to reduce the possibility of cracking. These welds only receive a visual examination. Most of these welds are 1/16" undersized to the AWS/AISC requirements.

II Approach To and Status Of Proposed Resolution

The design of the subject welds were based on stress calculations using design loading conditions and design criteria allowable stresses. All welds were sized based on their adequacy to transmit the required design loadings; however, checks for minimum fillet weld sizes with respect to AWS D1.1 and AISC minimum weld requirements were not performed due to oversight. The condition was discovered on the PVNGS project after the San Onofre Units 2 and 3 project reported a potential deficiency in their specification of weld sizes. The condition for PVNGS is applicable to welds performed by both Bechtel Construction and project suppliers.

The estimated number of undersized fillet welds that have been made (by Bechtel Construction and project suppliers) is approximately 13,700. Nearly 4,000 of these welds are for channels attached to embedded plates which support metal decking. These welds do not require evaluation because once the concrete has been placed and reaches its design strength, the decking will serve no other purpose. The welding procedures and weld specifications used by Bechtel's construction forces are similar to that used by the San Onofre project. That project resolved the condition by performing verification/qualification testing of specimens representative of the subject welds. The results of the San Onofre tests indicated that an adequate margin of safety existed and that the welds were acceptable without repair.

To complete this evaluation, Project Engineering and Bechtel's Material and Quality Services Department are reviewing and comparing the PVNGS field welds with the San Onofre field welds. A report will be prepared documenting this review. The welding procedures and qualification reports from Brownyard Steel, Reppel Steel, Marathon Steel and Shurtleff and Andrews, Incorporated are being reviewed and evaluated to determine if adequate margins of safety exist. This review will also be documented in a report.

The project corrective action plan will be to repair any welds which, as indicated by the completed reports, do not have an adequate margin of safety.

III Projected Completion of Corrective Action and Submittal
Date of the Final Report

The complete evaluation is forecast to be completed by September 1, 1980, at which time a final report will be submitted.

