ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
QA BREAKDOWN - DEFICIENT FILLET WELDS
NCR'S 1188 AND 1203*
10 CFR 50.55(e)
FIRST INTERIM REPORT

Description of Deficiency

Numerous fillet welds, located in various safety-related systems do not meet ASME Code and/or G-29 requirements due to inadequate fillet leg size or theoretical throat dimensions. Deficient welds have been found in socket weld fitting, socket weld flange, and component support welds. This quality assurance problem is attributable in part to the procedure for fillet weld inspection because it did not accurately reflect the applicable ASME Code requirements. Additional problems with socket weld flanges arose because, at the time the procedures were written, G-29M requirements did not specify socket weld flange requirements. G-29M was revised on March 21, 1979, to include socket weld flange requirements. However, TVA failed to incorporate this change into its site quality control procedures. Fillet weld gauges not being available to assist the inspectors in determining the adequacy of a weld also contributed to the problem.

At present, 100 deficient socket weld fittings have been found out of 671 inspected and 20 deficient socket weld flanges have been found out of 68 inspected. Also, 20 out of 24 socket weld flanges on schedule 160 pipe were found to be deficient and documented on Quality Control Inspection Report (QCIR) No. 3328.

Of the 1709 component support welds inspected, 477 were found to be deficient. Most of these are fillet welds, but some are butt welds and full penetration welds. Three hundred forty-five were rejected for insufficient fillet weld size. The rest were rejected for some other reason such as undercut, overlap, porosity, pinholes, slag, etc.

Corrective Action

All socket and flange fillet welds which were inspected before identification of this problem will be reinspected. Those welds that are undersized will be reworked by adding weld metal to bring the weld into compliance with applicable requirements.

TVA is developing an inspection program to determine the areas in which the deficient component support welds occurred and if a 100-percent reinspection is necessary.

The appropriate quality control procedures have been revised and reissued to reflect the ASME Code requirements. Welding inspectors have been retrained with emphasis placed on use of fillet weld gauges and fillet weld size requirements.

*NCR 1188 deals with socket weld fitting and socket weld flange welds and NRC 1203 deals with component support welds.

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