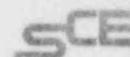


JMK

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L. T. PAPAY
VICE PRESIDENT

TELEPHONE
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December 4, 1981

Mr. R. H. Engelken, Director
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Region V
1450 Maria Lane, Suite 210
Walnut Creek, California 94596-5368



Dear Mr. Engelken:

Subject: Docket No. 50-362
San Onofre Nuclear Generating Station, Unit 3

In a letter to your office dated October 26, 1981 we identified a condition which we consider reportable in accordance with 10CFR50.55(e). The condition involves reflector indications noted during ultrasonic testing performed for Preservice Examination (PSE) of the Unit 3 Reactor Pressure Vessel.

Enclosed in accordance with 10CFR50.55(e) are twenty-five (25) copies of a Final Report entitled, "FINAL REPORT ON PRESERVICE EXAMINATION INDICATIONS DISCOVERED IN UNIT 3 REACTOR PRESSURE VESSEL."

If you have any questions regarding this report, we would be pleased to discuss this matter with you at your convenience.

Very truly yours,

Enclosures

cc: Victor Stello (NRC, Director I&E)
A. E. Chaffee (NRC, San Onofre Units 2 and 3)

REGION V NRC

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Final Report on the Preservice Examination
Indications Discovered in Unit 3
Reactor Pressure Vessel

San Onofre Nuclear Generating Station, Units 2 & 3

INTRODUCTION

This report is submitted pursuant to 10CFR50.55(e)(5). It describes a condition involving reflector indications obtained by ultrasonic testing during preservice examination of the Reactor Pressure Vessel for Unit 3 in accordance with ASME BPVC, Section XI. This report includes a description of the condition, an analysis of the safety implications, and a summary of corrective action taken. By letter dated October 26, 1981, Edison confirmed notification to the NRC of this condition. By letter dated November 20, 1981, Edison requested an extension on the time to December 7, 1981, for submission of a final report in accordance with 10CFR50.55(e)(3).

BACKGROUND

During the Preservice Examinations (PSE) of the Unit 3 Reactor Vessel, six reflector indications were noted by Ultrasonic Testing. These indications were rejectable under the PSE criteria which is used for establishing a baseline for inservice inspections. The indications were located in the lower part of the three long seams in the intermediate shell course, near the outside surface.

DISCUSSION

The following discussion is responsive to 10CFR50.55(e)(3).

Description of Deficiency

The ultrasonic preservice examination indications were found in the longitudinal weld seams at 330°, 210° and 90° near the bottom of the intermediate shell girth weld. They appeared to be aligned in parallel to the longitudinal weld centerline at the weld fusion line. The actual extent of the indications could not be accurately determined due to their proximity to the outer surface. These six indications were evaluated for size from the outer surface by means of Distance Amplitude Curve (DAC) technique. All of the indications except those in weld at 330° were of spot size in length. Those at 330° showed some lateral width of less than 3/4 inch. All three welds were found unacceptable based on ASME BPVC Section XI.

Analysis of Safety Implications

The six indications in the long seam welds were just above the lower to intermediate shell girth seam and very close to the outside surface. There is extra stock on the vessel wall

over minimum required thickness at this point.

If the vessel wall is ground to minimum wall thickness (8.448") the allowable indication for baseline inspection under ASME BPVC, Section XI is $0.035 \times 8.448 = 0.30$ ". Indications of less than this depth can remain.

An evaluation of the expected growth of a 0.3" deep x 0.6" long surface flaw in an 8.535" thick vessel wall has been performed using all of the San Onofre 3 design transients. It is predicted that the flaw depth will increase by 0.0027 inches in the 40 years life. This evaluation is consistent with other analysis of similar situations. In addition, the plant operating limits are based on assumed flaws of much greater size than the evaluated indications. Therefore, these indications would not place a restriction on operation.

CORRECTIVE ACTION

A repair procedure, C-E Procedure No. 72170-4, Revision 1, was generated for the repair work. The procedure essentially called for grinding to remove or to reduce the size of the indications to make them acceptable in accordance with ASME BPVC, Section XI. To complete the repair in accordance with the Code, the excavated area will be blended into the surrounding material. The final acceptability of the indication will be determined following blending and repeating the preservice examination.