ML020630459.txt

PRIORITY ATTENTION REQUIRED MORNING REPORT - REGION V JUNE 16, 1993

Licensee/Facility:

Southern California Edison & San Diego Gas & Electric Co.
San Onofre 2

Camp Pendleton,California
Dockets: 50-361
PWR/CE

Notification:

MR Number: 5-93-0042
Date: 06/15/93
TELEPHONE CALL FROM RI

Subject: STEAM GENERATOR FEEDRING NOZZLE THROUGH WALL EROSION

Reportable Event Number: N/A

Discussion:

On June 10 and 12, 1993, during the Unit 2 Cycle 7 refueling outage, the licensee conducted an inspection of the E088 and E089 steam generator (SG) feedrings. The licensee discovered through-wall erosion in each of the first J-tube elbows (two per SG) on each side of the flow distribution box. The J-tubes are welded to the top of the feedring. The erosion occurred in the area above where the elbow is welded to the top of the feedring. Ultrasonic thickness measurements identified that wall thinning had occured in approximately half of the elbows in each SG. The elbows have been installed since the initial startup of Unit 2.

In May of 1990, the licensee conducted an inspection on the first three elbows (J- tubes) downstream of the flow distribution box in Unit 3 SG E088. At that time, there were no indications of wall thinning. There has not been previous measurement of J-tube wall thickness in the Unit 2

SGs.

In May through August of 1990, SG inspections revealed cracking and erosion in the area where the feedring was welded to the flow distribution box and the flow distribution box vent on both Unit 2 and 3 steam generators.

The root cause of this failure was due to inadequate design of the distribution box assembly feedring and feedring supports. The design did not take into consideration the in-service thermal stresses that may result from normal operation conditions (i.e. induced from temperature variations from auxiliary feedwater operation). The affected areas were replaced on the Unit 2 and 3 SGs.

The licensee has plans to develop a repair program over the next few weeks. Preliminary estimates are that one-third to one-half of the feedring elbows will have to be replaced due to the extent of the erosion. Additionally, the licensee's design engineering organization has reviewed a previous evaluation which addressed the effects of foreign parts in an operating SG and concluded that the evaluation bounded objects similar in size to the elbows.

Regional Action:

The resident inspectors will monitor the licensee's corrective actions.

Contact: David Solorio (714)492-2641
Howard Wong (510)975-0296