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AUTH.NAME AUTHOR AFFILIATION
PAPAY,L.T. Southern California Edison Co.
RECIP.NAME RECIPIENT AFFILIATION
ENGELKEN,R.H. Division of Engineering & Technical Inspection

SUBJECT: Final deficiency rept re use of Target Rock Y-pattern globe valves in safety injection tank fill lines,initially reported 810430,Review of all valves indicates unique situation.Seismic Category I check valves will be installed.

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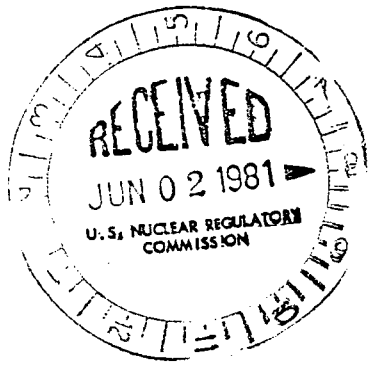
May 28, 1981



Mr. R. H. Engelken, Director
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Region V
Suite 202, Walnut Creek Plaza
1990 North California Boulevard
Walnut Creek, California 94506

Dear Mr. Engelken:

Subject: Docket Nos. 50-361 and 50-362
San Onofre Nuclear Generating Station, Units 2 and 3

In a letter to your office dated April 30, 1981 we identified a condition which we considered potentially reportable in accordance with 10CFR50.55(e). The condition concerns the use of Y-pattern, unidirectional valves in the nitrogen pressurizer lines to the safety injection tanks.

Enclosed are twenty-five (25) copies of a final report entitled, "FINAL REPORT ON THE USE OF TARGET ROCK Y-PATTERN GLOBE VALVES IN THE SAFETY INJECTION TANK FILL LINES, San Onofre Nuclear Generating Station, Units 2 and 3."

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

Very truly yours,

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Enclosures
cc: Victor Stello (NRC, Director I&E)
R. J. Pate (NRC, San Onofre Units 2 and 3)

S

8106030199

FINAL REPORT ON THE USE OF TARGET ROCK Y-PATTERN GLOBE VALVES IN THE SAFETY INJECTION TANK FILL LINES

San Onofre Nuclear Generating Station, Units 2 and 3

INTRODUCTION

This report is submitted pursuant to 10CFR50.55(e)(3). It describes a condition in which the nitrogen pressurization of the safety injection tanks (SIT) could be vented during a seismic or high energy line break event. This report includes a description of the deficiency, analysis of the safety implications and a summary of the corrective actions taken. By letter dated April 30, 1981, Edison confirmed notification to the NRC of this potentially reportable condition.

BACKGROUND

During the review of high energy piping for potential pipe breaks and system responses, it was determined that it would be beneficial to depressurize the Seismic Category II portion of the nitrogen supply header inside containment during operation in order to minimize the potential for high energy pipe breaks. A review of the SIT isolation valves showed that they are unidirectional and would not be effective with a reverse pressure differential (vented fill line). Further review indicated that the valves and their associated supports were class boundaries between seismic category I and II systems. Consequently, if the nitrogen supply header (seismic category II) failed during a seismic event, the safety injection tanks would have depressurized.

DISCUSSION

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

Description of the Deficiency

The nitrogen fill valves (HV-9344, -9354, -9364, -9374) to the safety injection tanks are solenoid operated unidirectional Y-pattern globe valves manufactured by Target Rock. A pressure differential in the direction opposite to the normal direction of flow will unseat these valves, resulting in the simultaneous loss of nitrogen overpressure to all safety injection tanks.

Analysis of Safety Implications

If the seismic category I nitrogen supply header failed during a seismic event, the safety injection tanks would depressurize and not serve their safety function.

CORRECTIVE ACTION

A review of the use of all solenoid operated Target Rock Y-pattern globe valves was performed to determine whether this deficiency was present in any other system. The results of that investigation indicated that this was a unique situation.

Seismic Category I check valves will be installed upstream of the Target Rock valves to prevent depressurization through the valves. Schedule for completion is August 1, 1981.