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TU ELECTRIC

January 14, 1992

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U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION - UNIT 2
DOCKET NO. 50-446
MSIV INTERNAL CORROSION
SDAR CP-91-08 (FINAL REPORT)

Gentlemen:

On October 15, 1991, TU Electric orally notified the NRC of a potentially reportable condition in which internal pitting corrosion was found in all four Main Steam Isolation Valves (MSIVs). The last report on this issue was logged TXX-91420 dated November 14, 1991. It has now been determined that this condition is reportable pursuant to 10CFR50.55(e).

Description of Condition

Pitting corrosion was discovered on internal bore surfaces of two Unit 2 MSIVs during preparation for reassembly on September 16-18, 1991. The pitting in 2HV-2334A was identified over the entire bore surface with the heaviest concentration in a circumferential pattern about midway between the bonnet flange and the valve seat. Numerous individual pits were found in 2HV-2334A near the valve seat. The pits varied in depth from 0.009 inch by pit gage to 0.018 by visual examination and were less than 1/8 inch in diameter.

Inspection of the other two MSIVs on September 30, 1991 revealed the same type of corrosion.

The four valves had been disassembled in July 1987 to allow plugs to be installed for a secondary hydrostatic test. The pistons were stored in the warehouse and plywood covers were installed over the bores to maintain system cleanliness. Unit 2 work was placed on hold before the test was performed and the valves were not reassembled. Thus, the valves were not properly prepared for long-term layup. The corrosion was aggravated by the fact that the area in which the MSIVs are located was not weather-tight during the layup period.

Safety Implications

Although some of the individual pits exceeded 0.010 inch in depth, the manufacturer was more concerned with the areas of large concentrations of pits which were less than 0.010 inch deep. The balance chamber is critical for proper valve operation and the piston rings must seat against the bore surface. These areas of corrosion could possibly contribute to leakage at the piston rings.

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Depending on the severity of the corrosion, both the opening and closing times could be affected, and the possibility exists that piston binding could occur. Thus, this deviation could create a substantial safety hazard were it to remain uncorrected.

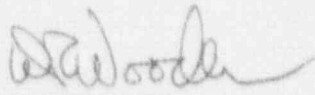
Corrective Action

The bore on all four MSIVs will be machined to 0.050 inch oversize and oversized piston rings will be installed to insure a proper seal between the piston and valve body bore. The work will be accomplished by site personnel under vendor representative guidance prior to hot functional testing.

As part of the ongoing Unit 2 flush program, more than a hundred components have been inspected and no significant examples of corrosion damage have been identified. Therefore, the unprotected condition that resulted in corrosion of the MSIVs is considered to be an isolated occurrence.

Sincerely,

William J. Cahill, Jr.

By: 
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JTC/1

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