

Commonwealth Edison Company
Dresden Generating Station
6500 North Dresden Road
Morris, IL 60450
Tel 815 942-2920



August 30, 1999

JMHLTR: #99-0100

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

Dresden Nuclear Power Station, Unit 3
Facility Operating License No. DPR-25
NRC Docket No. 50-249

Subject: Licensee Event Report 1999-003-01, "Reactor Recirculation B Loop, High Pressure Flow Element Venturi Instrument Line Steam Leakage Results in Unit 3 Shutdown Due to Fatigue Failure Of Socket Welded Pipe Joint"

The enclosed Licensee Event Report, which is a final report, describes the Reactor Recirculation B Loop, high pressure flow element venturi instrument line steam leakage resulting in Unit 3 Shutdown, due to fatigue failure of socket welded pipe joint. This condition is being reported pursuant to 10CFR50.73(a)(2)(i)(A), which requires reporting the completion of any nuclear plant shutdown required by the plant's Technical Specifications (TS).

The following actions were taken:

The tee with the failed weld, the two adjacent elbows (to the left and right sides of the run element of the tee), the pipe between the elbows, and approximately 5 inches of the pipe welded to the branch side of the tee were replaced with type 304 stainless steel. The original material was type 316L stainless steel, which has a lower stress allowable.

Prior to the fitting replacement, the high and low pressure flow element sensing lines on both Unit 3 recirculation loops were visually inspected and no noticeable damage or deformation in the pipe or supports were observed.

EPRI report TR-107455 states, "Most significantly, increasing the axial weld leg dimension with respect to ASME Code minimums can substantially increase the fatigue strength of the joint and can even counteract the potentially damage effect of weld root defects." In keeping with this recommendation, the old welds were replaced with a weld more resistant to a vibration induced fatigue failure (the weld leg length along the pipe is twice the socket height). The leg length of the old weld was equal to the socket height.

9909070174 990830
PDR ADDCK 05000249
S PDR

IE2

The existing pipes that are welded to the new elbows were polished and non-destructive surface examined by penetrant testing (PT) before welding.

Counsel the appropriate engineering personnel on the implementation of Engineering Department Standards, including the use of Subject Matter Experts and implementation of industry experience.

Train engineering personnel on the performance of electronic industry data searches.

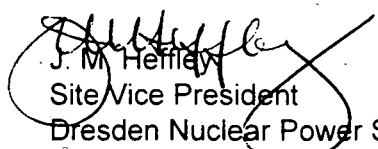
Review this event with engineering personnel and reinforce Engineering Department Standards.

This Correspondence contains the following commitments:

Design Engineering shall issue a Design Change Package (DCP) to install pipe supports on the high and low pressure sensing lines for the Unit 2(3) Reactor Recirculation A (B) Loops.

Should you have any questions, please contact Mr. D. F. Ambler at (815) 942-2920 extension, 3800.

Respectfully,


J. M. Heffley
Site Vice President
Dresden Nuclear Power Station

Enclosure

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Dresden Nuclear Power Station