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March 12, 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S.Nuclear Regulatory Commission
Washington, DC 20555

Subject: Dresden Station Unit 3
Commitment for Mid-Cycle
Inspection
NRC Docket No. 50-249

Dear Mr. Denton:

This letter is in response to questions from Messrs. W. Koo, M. Hum, and R. Gilbert of your staff during a conference call on March 7, 1984. Their questions pertained to the inspection results of sweepolet welds 22A-4 and 22B-8 on the Dresden Unit 3 recirculation system piping. Since 22A-4 had the larger through wall crack depth as determined by one of the inspection groups we have used it as the bounding case in the following discussion.

Weld 22A-4 was examined by Lambert, McGill & Thomas (LMT) on January 7, 1984, using both 45 degree and 60 degree shear wave. They picked up two indications, one was a circumferential and was evaluated to be I.D. geometry. The other, using a skew angle of 45 degrees, was identified as an axial crack with an actual computer indication crack depth length of 17%, but could not be seen extending to the I.D. itself. Nevertheless, to be conservative, they added the distance of no reflection to the detectable indication depth and came up with a through wall depth of 44%.

The second inspection group, Universal Testing Laboratories (UTL)-Kraft Werke Union (KWU) examined this weld on January 26, 1984, using 45 degree shear wave, 60 degree shear wave and 30/70 (so-called "creeping wave") transducers, directed axially, circumferentially, and at 45 degrees to the weld edge. With all scans, they found two spot indica- tions, which they regarded as not even being true indications, since they had no apparent length. They did not consider these indications to be cracks or even recordable indications, but simple small spot reflectors.

Finally, two of our own Level III, 83-02 qualified, UT examiners, inspected the weld in the area of the indication diagnosed as an axial crack by LMT, using both 45 and 60 degree shear wave. They found it to be 0.5 inches long with the 45 degree shot using a 10 degree skew angle, running in the axial direction. Using the 60 degree transducer, at a skew angle of 10 to 20 degrees, they found it to be 1.2 inches long. Both examiners said that, in their opinion, the reflector was weld root geometry and not a crack, either axial or circumferential.

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Having reviewed all of the data generated by all three teams, it is the C.E.Co. position that there are two small root geometry reflectors in this weld. We believe this to be the correct interpretation of the composite data, inasmuch as this weld was fully post-weld annealed and therefore not in a sensitized condition, nor containing residual weld stresses. The absence of both of these conditions would make it far more resistant to IGSCC than an unannealed weld and therefore most unlikely to be attacked by IGSCC.

Using the first inspection group's measurement of a 44% through wall depth, there is no measurable crack growth based on worst case evaluation of the stressed conditions at the sweepolet welds by our Architect Engineer. The worst case evaluation uses the residual stress for the as welded condition. The result is that the allowable crack depth would not be exceeded in 100 months of operation.

Although it is our belief that the indications for both weld nos. 22A-4 and 22B-8 are weld root geometry, the NRC Staff wishes to treat these indications conservatively. Therefore we are committing to do a single mid-cycle ultrasonic inspection on both welds 22A-4 and 22B-8 between 6 and 12 months after startup, during an outage of greater than 72 hours. At the end of 12 months if we have not made the inspection we will shutdown to perform this examination.

If you have any queston regarding this matter, please contact this office.

One signed original and forty (40) copies of this letter are provided for your use.

Very truly yours,

B. Rybak

B. Rybak
Nuclear Licensing Administrator

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cc: NRC Resident Inspector - Dresden
R. Gilbert - NRR

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