



Commonwealth Edison  
1400 Opus Place  
Downers Grove, Illinois 60515

#3  
9/9

September 2, 1992

Dr. Thomas E. Murley, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attn: Document Control Desk

Subject: Dresden Nuclear Power Station Units 2 and 3  
Quad Cities Nuclear Power Station Units 1 and 2  
Reclassification of two Recirculation Case Stainless  
Steel Pump-to-Cast Stainless Steel Elbow Welds  
NRC Docket Nos. 50-237, 50-249, 50-254, and 50-265

- References:
- (a) M. Richter memo to T. Murley, dated February 6, 1992.
  - (b) J. Schrage memo to T. Murley, dated March 11, 1992.
  - (c) B. Siegel memo to T. Kovach, dated March 20, 1992.
  - (d) "Evaluation of IGSCC Resistance and Flaw Tolerance of Recirculation Pump-to-Case Elbow Welds at Dresden Units 2 and 3 and Quad Cities Units 1 and 2," Report SIR-92-002.

Dear Dr. Murley:

As discussed in References (a) and (b), Commonwealth Edison Company (CECo) is submitting the attached report (Reference (d)) for your Staff's review to support the re-classification of two (2) Recirculation welds per unit to Category A per Generic Letter 88-01. Reference (d) concluded that the carbon content and the delta ferrite combinations of the CF8M castings at Dresden and Quad Cities Station exhibit IGSCC resistance. This conclusion supports their re-classification as Category A welds per the requirements of Generic Letter 88-01.

Additionally, CECO is proposing the substitution of a VT-2 visual examination of the weldment areas in conjunction with the Class 1 pressure test at the end of each refueling outage in lieu of an ultrasonic examination (UT). The UT examination is required once per 40 years for Category A welds per the requirements of GL 88-01. This substitution is necessary based on the current accessibility and configuration of the subject welds.

The accessibility of these welds is limited by the presence of a large whip restraint (cable-tray design whip restraint), located on each weld. The tray of the restraint encompasses the weld surface. Based on the current dose rate at the elbows, removal and re-installation of each whip restraint would require in excess of 10 person-rem in radiation exposure at Dresden and 6.4 person-rem at Quad Cities.

9209150049 920902  
PDR ADOCK 05000237  
P PDR

/scl:1165:53

ADD 1/1

If the welds were to be made accessible for examination purposes, the current weld configuration (outside surface contour) of each weld is not conducive to a meaningful UT for circumferential flaws. The weld contour is shown in the attached figures for Dresden and Quad Cities Stations.

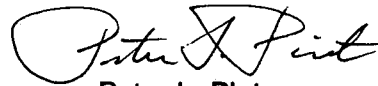
The weld crown is located in the middle of a trough approximately four (4) inches in width. This configuration is too restrictive for proper placement and movement of the transducer search units to obtain sufficient weld coverage in the axial direction (i.e., to search for circumferential flaws). Additionally, the ability of current available ultrasonic techniques to interrogate the complete weld volume cannot be assured due to the highly attenuative nature of the casting materials.

A leak-before-break evaluation was performed to determine the flaw tolerance of the subject pump-to-elbow weldments. The leakage associated with half of the critical flaw size was determined to be approximately 50 gpm. This leakage far exceeds the minimum allowable unidentified leakage limit of 5 gpm specified in the Dresden and Quad Cities Technical Specifications. Therefore, the margin of safety is assured without UT testing because plant operation would be prohibited far in advance of a propagating critical flaw.

CECo requests a response from your Staff to the subject request within 90 days of receipt of this letter to facilitate upcoming outage planning. In the interim, no UT testing on the subject welds will be performed.

If there are any questions concerning this issue, please direct them to this office.

Sincerely,



Peter L. Piet  
Nuclear Licensing Administrator

Attachment: "Evaluation of IGSCC Resistance and Flaw Tolerance of Recirculation Pump-to-Cast Elbow Welds at Dresden Units 2 and 3 and Quad Cities Units 1 and 2," Report SIR-92-002.

cc: A.B. Davis, Regional Administrator - RIII  
B.L. Siegel, Project Manager - NRR  
L.N. Olshan, Project Manager - NRR  
T. Taylor, Senior Resident Inspector - Quad Cities  
W.G. Rogers, Senior Resident Inspector - Dresden  
Office of Nuclear Facility Safety - IDNS

ATTACHMENT

EVALUATION OF IGSCC RESISTANCE AND FLAW  
TOLERANCE OF RECIRCULATION PUMP-TO-CAST  
ELBOW WELDS AT DRESDEN UNITS 2 AND 3 AND  
QUAD CITIES UNITS 1 AND 2

REPORT SIR-92-002