



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

April 16, 1999

50-254

Mr. Oliver D. Kingsley, President
Nuclear Generation Group
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, IL 60515

SUBJECT: FLAW EVALUATION OF RECIRCULATION LINE WELD O2BS-F4 AT QUAD
CITIES NUCLEAR POWER STATION, UNIT 1 (TAC NO. MA4174)

Dear Mr. Kingsley:

During the recent refueling outage for Unit 1 (Q1R15), Commonwealth Edison Company (ComEd, the licensee) performed inservice inspection on the recirculation system piping using ultrasonic examination in accordance with Generic Letter 88-01, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping." In a letter dated November 24, 1998, the licensee reported that seven welds were found with flaw indications that exceeded the acceptance criteria in subarticle IWB-3500, "Acceptance Standards," of Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), 1989 Edition. Additional information was provided by the licensee in conference calls held on November 19, 24 and 30, 1998. Welds O2AD-F12 and O2AS-S4, exhibiting indications identified in the preceding outage, showed no change in flaw size and the previous flaw evaluation remains applicable and acceptable for continued operation for the next operating cycle. One new flaw indication was detected on weld O2BS-F4. A flaw evaluation was performed on this weld to justify continued operation without repair. Each of the four remaining indications on welds O2AD-F8, O2BS-F7, O2AS-F9, and O2BS-F14 had a weld overlay repair applied in accordance with ASME Code Case N-504, "Alternative Rules for Repair of Class 1, 2, and 3 Austenitic Stainless Steel Piping, Section XI, Division 1."

The licensee performed a flaw evaluation on weld O2BS-F4 based on the indication detected by ultrasonic examination. Weld O2BS-F4 is an induction heating stress improvement treated flux weld fabricated by the shielded metal-arc welding (SMAW) process. The flaw was located on the pump suction side of the recirculation piping. The fracture mechanics evaluation was conducted using the procedures provided in Appendix C and Paragraph IWB-3640 of the ASME Code, Section XI. The crack growth evaluation to determine the projected crack depth was conducted using the procedures outlined in NUREG-0313, "Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping," Revision 2. The results of the licensee's flaw evaluation have shown that Quad Cities Nuclear Power Station, Unit 1, can be safely operated for the next operating cycle because the subject indications meet the criteria of IWB-3640, Section XI of the ASME Code.

11
DF01

210053

9904210288 990416
PDR ADOCK 05000254
P PDR

NRG FILE CENTER COPY

Mr. Oliver D. Kingsley

- 2 -

Based on a review of the licensee's submittal, the staff concludes that Quad Cities Nuclear Power Station, Unit 1, can be safely operated for the next fuel cycle with weld O2BS-F4 in its current condition because the structural integrity of the weld will be maintained. However, continued plant operation beyond the next fuel cycle will depend on the satisfactory evaluation of the re-inspection results or implementing acceptable repairs during the next refueling outage.

The staff's safety evaluation is enclosed. This completes our effort for TAC No. MA4174.

Sincerely,

Original signed by

Robert M. Pulsifer, Project Manager, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-254

Enclosure: Safety Evaluation

cc w/encl: See next page

Distribution:

Docket File

C. Moore
ACRS, T2E26

PUBLIC
R. Pulsifer
G. Grant, RIII

PDIII-2 r/f
OGC, O15B18
R. Norsworthy (SE only)

J. Zwolinski/S. Black
C. Thomas/A. Mendiola

DOCUMENT NAME: A:/MA4174

To receive a copy of this document, indicate in the box: "C" = Copy without enclosures "E" = Copy with enclosures "N" = No copy

OFFICE	PM:PD32	LA:PD32	SC:PD32				
NAME	RPULSIFER	CMOORE	AMENDIOLA				
DATE	04/16/99	04/15/99	04/16/99				

OFFICIAL RECORD COPY

O. Kingsley
Commonwealth Edison Company

Quad Cities Nuclear Power Station -
Units 1 and 2

cc:

Commonwealth Edison Company
Quad Cities Station Manager
22710 206th Avenue North
Cordova, Illinois 61242-9740

Vice President - Law and
Regulatory Affairs
MidAmerican Energy Company
One River Center Place
106 E. Second Street
P.O. Box 4350
Davenport, Iowa 52808

U.S. Nuclear Regulatory Commission
Quad Cities Resident Inspectors Office
22712 206th Avenue N.
Cordova, Illinois 61242

Mr. David Helwig
Senior Vice President
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 900
Downers Grove, Illinois 60515

Chairman
Rock Island County Board
of Supervisors
1504 3rd Avenue
Rock Island County Office Bldg.
Rock Island, Illinois 61201

Mr. Gene H. Stanley
PWR Vice President
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 900
Downers Grove, Illinois 60515

Illinois Department of Nuclear Safety
Office of Nuclear Facility Safety
1035 Outer Park Drive
Springfield, Illinois 62704

Mr. Christopher Crane
BWR Vice President
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 900
Downers Grove, Illinois 60515

Regional Administrator
U.S. NRC, Region III
801 Warrerville Road
Lisle, Illinois 60532-4351

Commonwealth Edison Company
Site Vice President - Quad Cities
22710 206th Avenue North
Cordova, Illinois 61242-9740

William D. Leach
Manager - Nuclear
MidAmerican Energy Company
907 Walnut Street
P.O. Box 657
Des Moines, Iowa 50303

Commonwealth Edison Company
Reg. Affairs Manager - Quad Cities
22710 206th Avenue N.
Cordova, Illinois 61242-9740

Mr. R. M. Krich
Vice President - Regulatory Services
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, Illinois 60515

Ms. Pamela E. Stroebel
Senior Vice President and General Counsel
Commonwealth Edison Company
P.O. Box 767
Chicago, Illinois 60690-0767

Document Control Desk-Licensing
Commonwealth Edison Company
1400 Opus Place, Suite 400
Downers Grove, Illinois 60515