

DmB

ILLINOIS POWER COMPANY



1605-L
U-10175

CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

July 11, 1984

Docket No. 50-461

Mr. James G. Keppler
Regional Administrator
Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Subject: Potential 10CFR50.55(e) Deficiency 55-83-10
Weld Deficiencies on Containment Liner Dome

Dear Mr. Keppler:

On December 1, 1983, Illinois Power notified Mr. F. Jablonski, NRC Region III (ref: IP memorandum Y-18886 dated December 1, 1983) of a potentially reportable deficiency per 10CFR50.55(e) concerning welding deficiencies identified on the containment liner dome closure weld seam. This initial notification was followed by two (2) interim reports (ref: IP letter U-10116, D. P. Hall to J. G. Keppler dated December 29, 1983; and IP letter U-10140, D. P. Hall to J. G. Keppler dated April 6, 1984). Our investigation of this issue continues, and this letter represents an interim report in accordance with 10CFR50.55(e)(3).

Statement of Potentially Reportable Deficiency/Background

During the removal of temporary attachments from the containment liner dome, vendor welding deficiencies were observed by Baldwin Associates (BA) personnel on the containment liner dome closure weld seam (designated R2-R3), fabricated by Chicago Bridge & Iron Co. (CB&I). The deficiencies include areas of undercut, porosity, incorrect weld profile, arc strikes, and several small cracks. Also found were dimensional tolerance violations during base metal fit-up of the weld, and the presence of a foreign substance on the seam weld. An evaluation is being performed to determine the full extent and significance of these conditions on operational safety of Clinton Power Station (CPS).

8407240148 840711
PDR ADOCK 05000461
S PDR

JUL 16 1984
FE 29 1/0

Investigation Results/Corrective Action

Illinois Power has prepared and implemented an investigation plan to identify and evaluate the extent and nature of weld deficiencies and other irregularities noted by Baldwin Associates personnel. The investigation has proceeded in the following manner:

1. Illinois Power retained the services of a chemist from Southwest Research Institute (SWRI) to inspect and to obtain and analyze a sample of the foreign substance found on the dome weld. SWRI reported that the foreign substance was chewing gum placed over the weld area after the primer paint had been applied. The area where the gum was removed was subsequently cleaned and magnetic particle (MT) examined. No adverse indications were found, indicating that the gum had not masked any weld defects. It has been concluded that this was an isolated incident.
2. The liner areas reported as dimensionally out of tolerance were evaluated by Sargent & Lundy. This evaluation determined that the identified dimensional deviations will not affect the functioning of the liner.
3. An area twelve (12) inches on either side of the closure seam R2-R3 and several adjacent areas exhibiting suspect visual indications were cleaned and examined by magnetic particle testing by U.S. Testing Company and then visually inspected by BA. The examination/inspection was performed in 10° increments around the circumference of the R2-R3 weld, and resulted in the issuance of 36 Nonconformance Reports, primarily for adverse visual indications. The visual inspection criteria used by BA was, however, different from that used by CB&I at the time of construction. Two (2) small cracks and two (2) linear MT indications were identified by the examinations. These adverse indications are being explored further to determine the relevance/significance of the indications and the need for repairs.

Illinois Power retained the services of an independent third party, Brand Examination Services and Testing Co. (BESTCo), to act as IP's Designated Reviewer, to further evaluate the weld surface condition, visual inspection results, and MT examination results. The Designated Reviewer evaluated the MT procedures used by CB&I and U.S. Testing Company, the fabrication specification, and applicable design codes for the original work.

Additional MT examinations were performed by the Designated Reviewer to further evaluate the adequacy of installation and investigation work performed on the dome welds.

The results of our investigation, following completion of activities by the Designated Reviewer (BESTCo), are as follows:

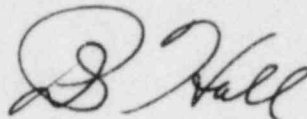
1. The surface of the R2-R3 weld is suitable for MT inspection.
2. Two (2) areas on vertical welds intersecting R2-R3 are considered unsuitable for MT and will be cleaned and reinspected (NCRs 14348 and 14349).
3. The MT inspection of the R2-R3 weld was valid at the time it was performed by Chicago Bridge & Iron (CB&I). CB&I had also vacuum box tested this weld for leakage per specification requirements, and found it acceptable.
4. Indications noted now must be explored for relevance (NCRs 14360, 13402, and 14640).
5. The crack in the liner must be repaired (NCR 14340).
6. The weld area previously reported with gum overlaid is acceptable (NCR 15513).
7. Welds on the repair plate at AZ 9° will be excavated/ repaired (NCR 14927).
8. Areas with out of tolerance liner geometry are acceptable as is (NCR 12824).

Safety Evaluation/Significance

Investigation of this issue is proceeding at this time to determine the significance of the identified welding deficiencies. The final disposition to several NCRs is pending the excavation of designated weld areas and MT reinspections. The results of these MT reinspections could add to the significance of this investigation. Sargent & Lundy will be requested to provide an evaluation of the significance to the safe operation of Clinton Power Station in light of the confirmed crack in the liner. The determination of the reportability of this matter will be made upon Illinois Power's review of Sargent & Lundy's evaluation. It is expected that approximately ninety (90) days will be necessary to further evaluate this issue and to provide a final report on the matter.

We trust that this interim report provides sufficient background information to perform a general assessment of this potentially reportable deficiency, and adequately describes our overall approach to resolve the issue.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "D. P. Hall".

D. P. Hall
Vice President

RLC/lag

cc: NRC Resident Office
Director-Office of I&E, USNRC, Washington, DC 20555
Illinois Department of Nuclear Safety
INPO Records Center