

ILLINOIS POWER COMPANY



1605-L
U-10140
500 SOUTH 27TH STREET, DECATUR, ILLINOIS 62525

April 6, 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 one (1) interim report (ref: IP letter U-10116, D. P. Hall to J. G. Keppler dated December 29, 1983). 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).

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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 will be explored further to determine the relevance/significance of the indications and the need for repairs.

Illinois Power is retaining the services of an independent third party to act as IP's Designated Reviewer, to further evaluate the weld surface condition, visual inspection results, and MT examination results. The Designated Reviewer will evaluate 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 will also be performed by the Designated Reviewer to further evaluate the adequacy of installation and investigation work performed on the dome welds.

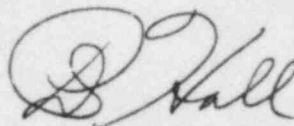
4. Upon the completion of investigative actions, the result will be compiled and reviewed. Any confirmed adverse conditions will be dispositioned by the CPS Architect/Engineer, Sargent & Lundy. The need for additional inspections will be evaluated and the significance of identified deficiencies on operational safety will be determined.

Safety Evaluation/Significance

Investigation of this issue is proceeding at this time to determine the significance of the identified welding deficiencies. Until further investigation and inspection data has been obtained and evaluated, a definitive statement as to the affects of the welding deficiencies on the safe operation of Clinton Power Station cannot be made. 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,



D. P. Hall
Vice President

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cc: NRC Resident Office
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Illinois Department of Nuclear Safety
INPO Records Center