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ILLINOIS POWER COMPANY



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U-10178

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

July 13, 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 55-83-11
Laminations in 3/8" Steel Plates

Dear Mr. Keppler:

On December 6, 1983, Illinois Power notified Mr. F. Jablonski, NRC Region III (Ref: IP Memorandum Y-18894, dated December 6, 1983) of a potentially reportable deficiency per 10CFR50.55(e) concerning laminations found in 3/8" thick steel plates supplied to Clinton Power Station (CPS) for use in electrical hanger applications. This initial notification was followed by two (2) interim reports (Ref: IP letter U-10118, D. P. Hall to J. G. Keppler dated January 10, 1984; and IP Letter U-10142, D. P. Hall to J. G. Keppler, dated April 13, 1984). Illinois Power's investigation of the above matter is complete and has determined that the issue does not represent a reportable deficiency under 10CFR50.55(e). This letter is submitted as a final report, regarding this potentially reportable deficiency.

Statement of Potentially Reportable Deficiency
(Withdrawn)/Background

During lighting fixture installation in a non-seismic area of CPS, a craftsman discovered a 3/8" x 8" x 8" steel plate with a pronounced lamination. Examination of other uninstalled plates of the same heat number uncovered additional examples of visible laminations. Review of material requisitions indicates that some of the materials were issued for use in seismic areas of CPS. An evaluation of this issue was performed to determine the extent of this problem, locations of potentially defective steel plates, and the significance of the issue on the operational safety of CPS.

Investigation Results/Corrective Action

Illinois Power has prepared and implemented an investigation plan to determine the extent and location of the suspect plate material. Investigations completed to date have identified the following information:

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1. One thousand (1,000) 3/8" x 8" x 8" plates and five hundred (500) 3/8" x 12" x 12" plates of heat No. 486K2790 have been received at CPS. Examination of heat number computer logs maintained at CPS showed that no other materials with this heat number have been received at CPS.
2. The 500-12" plates were received on August 17, 1981, as documented on Receiving Inspection Report S-14654. The 1,000-8" plates were received on October 12, 1981, as documented on Receiving Inspection Report S-15056.
3. The material was purchased by Baldwin Associates (CPS Constructor) from Interstate Steel Supply (Philadelphia, PA) by Purchase Orders C-32391 (12" plate) and C-33251 (8" plate). The material was purchased as safety-related to the requirements of ASTM A-36, for use in electrical hanger applications. Certified material test reports were received with the shipments, and showed Bethlehem Steel Corporation as the material manufacturer.
4. Upon identification of this issue, Nonconformance Reports (NCRs) 12149, 15579, and 15580 were written. Unissued plates of the suspect heat number were purged from CPS and placed on hold. An inspection of uninstalled plates, consisting of 524 - 8" plates and 352 - 12" plates, was performed. A total of 12 - 8" and 6 - 12" uninstalled plates were found with visible laminations.

The following actions were taken to determine the locations of potentially defective plates at CPS:

1. A review of design drawings was performed to determine electrical hanger details that use the specific sized materials.
2. A review of approximately 1,700 electrical hanger installation travelers issued since the receipt of the suspect material and which specified the affected details was performed. This review identified approximately ninety (90) hangers that may have used material from the suspect heat number.
3. A visual inspection of hangers identified as using the suspect material was performed. No visible defects were found in the plates used.

Since the initiation of the subject investigation, an additional Nonconformance Report, NCR 15559, was written to document lamination found in one (1) 3/8" x 8" x 8" plate of a different heat number, HT 492N0492. Further investigation of

this case was performed under this potential 10CFR50.55(e) investigation to determine if the occurrence was isolated or generic to the shipment.

The investigation of NCR 15559 was limited to examination of uninstalled plates with heat 492N0492. The inspection report (E84-1645) states "no signs of lamination or delamination were visible". Based on the results of this report, there was no traveler search performed to locate seismic hangers constructed, using plates of this heat number.

To prevent the installation of the suspect plate materials, uninstalled plates of Heat Number 486K2790 and 492N0492 were purged from construction areas and isolated at CPS until further investigation of the issue was performed. An evaluation of receipt inspection controls for this type of material was also conducted to determine if improvements were necessary. However, evaluation of the installation inspection program showed that adequate controls presently exist to identify defective plate materials used in safety-related electrical hanger installations.

A sample of 10 plates was sent off-site for nondestructive testing. The results (NDT lab report dated 4/10/84) support the on-site visual evaluation of the 8" x 8" plates, but indicates that the 12" x 12" plates were not rejectable under the guidelines of AWS D1.1, Section 3.

There were no obvious defects on the 12" x 12" plates. Apparently the edge rollover, that sometimes occurs during the shearing process, was perceived as lamination on these plates.

The original purpose of the off-site examination was to provide preliminary data for nondestructive examination of all plates in the QC hold area. The examination of all plates was later deleted as an investigation action and documented by the revision to the investigation plan, dated May 29, 1984.

Per AWS D1.1, it is the responsibility of the personnel involved in the installation process (both craft and Tech. Service) to reject plate material when it exhibits certain types of defects. As indicated by the NCRs written, this is being accomplished. Craft personnel found defective plates and notified QC in accordance with site procedures.


The results of the investigation indicate that the installation process is being conducted in accordance with the requirements of AWS D1.1.

Safety Implications/Significance

Investigation of this potentially reportable issue is complete. Illinois Power Company has reviewed and evaluated the findings of the investigation and has determined that no conditions, adverse to the safe operations of CPS were found. Therefore, this issue is considered to be not reportable under the provisions of 10CFR50.55(e).

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

Sincerely yours,



D. P. Hall
Vice President

RLC/cbs (NRC)

cc: NRC Resident Office
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