

ILLINOIS POWER COMPANY



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U- 10262

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

April 1, 1985

Docket No. 50-461

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

Subject: Potential 10CFR50.55(e) Deficiency 55-84-18:  
ASTM A-36 Plate Material

Dear Mr. Keppler:

On August 3, 1984, Illinois Power Company notified Mr. Jablonski, NRC Region III, (Ref: IP memorandum Y-20732, dated August 3, 1984) of a potentially reportable deficiency concerning A-36 plate material. This initial notification was followed by two (2) interim reports (ref: IP letter U-10198, D.P. Hall to J. G. Keppler dated August 30, 1984; and IP letter U-10228, D. P. Hall to J. G. Keppler dated December 7, 1984). Our investigation of this issue is progressing, and this letter is submitted as an interim report in accordance with the requirements of 10CFR50.55(e). Attachment A provides the details of our investigation to date.

We trust that this interim report provides you 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/lr(NRC2)

Attachment

cc: NRC Resident Office, V-690  
Director - Office of I&E, US NRC, Washington, DC 20555  
Illinois Department of Nuclear Safety  
INPO Records Center

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Attachment A  
Illinois Power Company  
\* Clinton Power Station

Docket No. 50-461

Potential 10CFR50.55(e) Deficiency 55-84-18:  
ASTM A-36 Plate Material

Interim Report

Statement of Potentially Reportable Deficiency/Background

Illinois Power has identified certain 15"x15"x1/2" A-36 steel plates (Heat No. 8117721, Receipt Inspection Report (RIR) No. S-12949), whose quality is currently indeterminate. The quality of the A-36 plate material became suspect during mechanical cutting operations by craft personnel. Although the plates were procured safety-related to the requirements of ASTM A-36, retesting has shown the physical properties (yield and tensile strength) are less than that required by the ASTM A-36 material specification. The Certified Material Test Report (CMTR) from Phoenix Steel Corporation (Claymont, Delaware 19703) which accompanied this material shows that it meets the requirements of ASTM A-36. A total of 300 plates of this heat number were received at the Clinton Power Station (CPS) for use in electrical hanger and conduit installations.

Investigation Results/Corrective Action

Illinois Power (IP) has prepared and is implementing an investigation plan to determine the extent of this problem at the Clinton Power Station (CPS). The investigation plan includes:

1. A review was performed of the material specification/testing requirements for the suspect A-36 material and other materials received from the same supplier,
2. A review was performed to identify installations which have utilized the suspect A-36 material,
3. A review was performed to identify all remaining stock of the suspect A-36 material,
4. Further testing is being performed, where appropriate, in order to assess the acceptability of the suspect material, and
5. The data compiled above will be reviewed and evaluated to determine the significance to the safety of operations of CPS.

ATTACHMENT A  
(continued)

Progress Summary

Preliminary tests performed on the suspect material have shown yield and tensile values of 30 and 45 KSI, respectively. Subsequently, Sargent & Lundy (S&L) was requested to perform an evaluation of the electrical hanger and conduit connection details which utilize  $\frac{1}{2}$ " thick plates in order to determine whether the design can be maintained with the above reduced properties.

The details identified by S&L for which the design could not be satisfied with the reduced properties were located by Baldwin Associates Resident Engineering (BARE). This location involved first, the use of the detail; and second, whether the suspect material was used to accomplish the installation. None of the suspect material was identified in an installation.

In order to firmly establish the reduced yield and tensile values of 30 KSI and 45 KSI respectively, an additional 30 plates (HT. No. 8117721) were tested by St. Louis Testing Laboratories, Inc. The results of these tests indicate yield and tensile values lower than 30 KSI and 45 KSI respectively. This will require a re-evaluation of the previously evaluated details.

Plate materials were also tested (chemical & physical analysis) via the Electrical Hanger Material Sampling Program (Ref. 10CFR50.55(e) Investigation, 55-84-02 and Nonconformance Report (NCR) 23422). Of the plates tested by this program, one had results which were similar to that of the retest of the original suspect material. The heat (432L7521) and RIR (S-13458) numbers however, were traceable to material manufactured by Bethlehem Steel. The Bethlehem material, in addition to the original suspect Phoenix material which exhibited the reduced properties, were all supplied by Interstate Steel Supply Co. (1800 East Byberry Rd, Philadelphia, PA 19116). Because of this correlation, Interstate supplied plate materials are currently suspect regardless of the material manufacturer.

A list of the plate materials purchased from Interstate has been compiled. This list consists of a total of 83 heats. Two (2) plates from each of the 70 available heats from construction stock were sent to St. Louis Testing Laboratories for chemical and physical analysis in order to determine whether any additional Interstate supplied plate materials exhibit reduced properties. Eleven (11) heats of material tested did not meet the requirements of A-36. Based on the results of the heats tested, Illinois Power is evaluating for adequacy those installations which have utilized the A-36 plate material exhibiting reduced properties.

The remaining original suspect material and the newly identified heats have been placed on hold. The remaining Interstate supplied plate materials (those which were tested and acceptable) are being used, but a separate log is being maintained which provides location identification. This will ensure retrievability, if required, based on the results of our evaluation.

Any installed suspect material not capable of satisfying the aforementioned evaluation will be documented via a Nonconformance Report (NCR).

The complete scope and root cause(s) of this issue have not yet been identified, such that a determination of remedial and generic corrective action can be made.

Identified discrepancies are being documented on NCRs and will be resolved in accordance with approved site procedures.

#### Safety Implication/Significance

The investigation of this potentially reportable deficiency is continuing. The safety implication and significance will be assessed after further background information is evaluated. It is anticipated that approximately ninety (90) days will be necessary to complete our investigation, determine reportability and to file a final report on the matter.

RLC/lr (NRC2)