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ILLINOIS POWER COMPANY



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

December 7, 1984

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 one (1) interim report (ref: IP letter U-10198, D.P. Hall to J. G. Keppler dated August 30, 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,

D. P. Hall  
Vice President

RLC/gs(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 A36, 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.

Investigation Results

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 is being 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.

### Progress Summary

Additional tests performed on the suspect material have shown yield and tensile values of 30 and 45 KSI, respectively. Pursuant to this, 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 cannot be satisfied with the reduced properties are being located by Baldwin Associates Resident Engineering (BARE). This location involves first, the use of the detail; and second, whether the suspect material was used to accomplish the installation. Thus far none of the suspect material has been identified in an installation.

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 and RIR numbers however, were traceable to material manufactured by Bethlehem Steel. The Bethlehem material, in addition to the original suspect Phoenix material that was tested and 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. Currently two (2) plates from each of the 68 available heats (warehouse/field stock) are being sent to St. Louis Testing Laboratories for physical and chemical analysis. The results of these tests will be used to determine if any additional Interstate supplied plates are suspect or if any additional testing of installed material is warranted. Should any of these materials show reduced properties they will be investigated in the same manner as the original suspect material.

### Corrective Action

A review is being performed by S&L and BARE as previously outlined. The original suspect material is on hold. The remaining Interstate supplied plate materials are being used, but a separate log is being maintained which provides location identification. This will ensure retrievability should the testing analysis indicate that these materials also exhibit reduced properties.

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 an additional four (4) months will be necessary to complete our investigation and to file a final report on the matter. Illinois Power intends to provide you with an update of this investigation in approximately ninety (90) days.

RLC/gs (NRC2)