

ILLINOIS POWER COMPANY



1605-L  
U-10207

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

Docket No. 50-461

October 18, 1984

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 55-84-02  
Material Traceability

Dear Mr. Keppler:

On January 11, 1984, Illinois Power Company notified Mr. R. C. Knop, NRC Region III (ref: IP memorandum Y-18980, dated January 11, 1984) of a potentially reportable deficiency per 10CFR50.55(e) concerning material traceability at the Clinton Power Station (CPS). This initial notification was followed by two (2) interim reports (ref: IP letter U-10124, D. P. Hall to J. G. Keppler dated February 14, 1984; and IP letter U-10157, D. P. Hall to J. G. Keppler dated July 12, 1984). Our investigation of this issue is continuing, and this letter represents 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 this issue.

Sincerely yours,

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

D. P. Hall  
Vice President

RLC/gs (SW)

cc: NRC Resident Office  
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 55-84-02  
Material Traceability

Interim Report

Statement of Potentially Reportable Deficiency

A condition potentially adverse to quality was identified in the area of material traceability. This concern is based on a number of Deviation Reports (DRs), Nonconformance Reports (NCRs), and Quality Assurance audit findings, documenting problems related to identification and traceability of, primarily electrical hanger materials installed at CPS. An investigation and evaluation of this issue is being performed to determine the extent of this problem, root causes, effect on installed hardware, and significance on the safety of operation of CPS.

Investigation Results/Background

On December 20, 1983, Illinois Power Quality Assurance issued Management Corrective Action Request (MCAR) Number 07 to identify an adverse condition existing in the area of material traceability. The bases for issuance of MCAR 07 included:

1. The untimely resolution of Corrective Action Request (CAR) Number 073, which identified a material traceability problem. This problem was evidenced by a significant number of NCRs and DRs written to document electrical hanger support members installed with incorrect or missing material identification numbers. These incorrect or missing identification numbers resulted in the inability to verify that the installed materials were correct.
2. An Illinois Power Quality Assurance audit disclosed problems regarding adherence to procedures related to material identification and traceability.

An Investigation Plan was prepared and implemented by Illinois Power Company to investigate and address the concerns identified in the area of material identification and traceability. The plan included the following actions:

1. A review of historical data leading up to issuance of MCAR 07 has been performed to identify the scope of past material traceability problems.

2. A review of design requirements, specifications, procurement procedures, and construction procedures is being performed to evaluate adequacy of the CPS material identification/traceability requirements and their implementation.
3. A list of specific hardware installations affected by the material traceability problem is being compiled and categorized.
4. Data collected in steps 1,2, and 3 above is being analyzed to determine the scope, root causes, and the significance of the issue.
5. Corrective action for identified hardware/software deficiencies and their root causes is being determined and implemented.

The investigation has identified several areas where the implementation of material traceability requirements is unclear or is in question. These areas include:

1. Structural plates and shapes used in electrical supports
2. Electrical strut and strut fittings
3. Concrete expansion anchor bolts
4. ASTM A-307 bolts
5. Washer and shim stock material
6. ASME Subsection NF, Class 2 and 3, support materials
7. Cable finger assemblies

The problems associated with material traceability were, in part, due to the lack of clarity and consistency in the procedural requirements. These procedural deficiencies resulted in the lack of adherence to procedures.

#### Corrective Action

Baldwin Associates' Procedure BAP 1.5 and appropriate subtier documents have been revised to provide clarification of the traceability requirements and preclude recurrence of the material traceability problems. Changes in the procedures include the requirement that permanent plant materials, upon receipt, will be identified by hard marking or tagging. Discipline Superintendents are required to notify QC prior to subdividing materials in order to verify that traceability is maintained through installation.

Training on the enhanced procedural controls was given to all appropriate personnel, concurrent with the revision of applicable BAP procedures.

Additional corrective actions taken to date include the following:

1. The majority of new materials (structural shapes, plates, struts, strut fittings, bolts, etc.) will be purchased as safety related only.
2. Laydown yards are being reorganized to clearly segregate materials.
3. Sampling and testing programs were developed and implemented to provide assurance that the installations made prior to the implementation of the revised BA procedures have utilized materials capable of meeting design requirements.
4. Although no objective evidence has been found concerning improper materials identified with pink paint, the practice of marking ASME III, Subsection NF, Class 2 and 3 safety related items with pink paint was discontinued. In lieu of this, items will be identified with heat numbers and RIR numbers.
5. A site purge of all non-traceable structural shapes, plates, and unmarked bolting material has been performed.

Since our last report, Baldwin Associates Quality Engineering has qualified Hilti as a safety-related supplier utilizing documentation obtained through the Coordinating Agency for Supplier Evaluation (CASE) and other sources. Past purchase orders for Hilti bolts are currently being evaluated for upgrading in accordance with approved site procedures.

Also, a sampling program was developed and implemented in accordance with MIL-STD-414 (Level V) for testing of electrical and HVAC unmarked A-307 bolts. The program established that the unmarked bolts met the strength requirements of A-307 (Ref. NCR 19789).

Certain structural shapes and plate materials utilized in the fabrication of electrical supports were identified as having incorrect or missing heat or Receipt Inspection Report (RIR) numbers which are necessary for QC verification. This item was partially resolved by the revision of appropriate procedures to require material verification in future installations. The remaining concern is to provide assurance that the installations made prior to the implementation of the revised procedures have utilized materials capable of meeting design requirements. A sampling program has been developed and is being implemented utilizing MIL-STD-414 (Level V). Testing will be performed on a representative population of electrical hangers with traceability

problems identified on Deviation Reports (DRs) and Nonconformance Reports (NCRs).

Cable finger assemblies for which the material traceability has been identified as indeterminate and documented on NCRs are being tested in conjunction with the electrical support materials discussed above.

S & L has provided clarification of the requirements for washer and shim stock, with respect to documentation, identification, and traceability. Based on clarification of the requirements, shims utilized in bolted applications are acceptable, however those utilized in welded installations will be investigated further to determine their material adequacy.

#### Safety Implications/Significance

Illinois Power Company's investigation of this potentially reportable deficiency is continuing. The safety implications 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 and to file a final report on this issue.

RLC/gs (SW)