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ILLINOIS POWER COMPANY



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

December 16, 1985

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: Potentially Reportable 10CFR50.55(e) Deficiency
55-85-09: (A) Inadequate Implementation of the
Design Document, Review Process By Baldwin
Associates (B) Improper Use of the Field
Interference Notice By the Zack Company

Dear Mr. Keppler:

On August 16, 1985, Illinois Power Company notified Mr. J. McCormick-Barger, NRC Region III (Ref: IP Record of Coordination Y-36439 dated August 16, 1985) of a potentially reportable deficiency (Item A) under the provisions of 10CFR50.55(e). This potentially reportable deficiency concerned Baldwin Associates' Resident Engineering (BARE) Civil/Structural Department's inadequate review of design change documents, including drawing revisions. The purpose of the BARE review was to identify design changes, and to assure that travelers and procedures were revised as required by Baldwin Associates' (BA) Procedure BAP 2.41, Design Document Review. As a result of the design changes not being incorporated into travelers, the construction of the design changes was not accomplished. The initial notification of this potentially reportable 10CFR50.55(e) deficiency was followed by one (1) interim report (Ref: IP Letter U-600260, D. P. Hall to J. G. Keppler, dated September 30, 1985).

In the above referenced interim report, Illinois Power included in this issue a separate concern (Item B) which identified a discrepancy in the Zack Field Interference Notice (FIN) program. This program discrepancy resulted in major modifications of non-safety/non-seismic HVAC systems being accomplished under the FIN program which did not require the Architect/Engineer's review.

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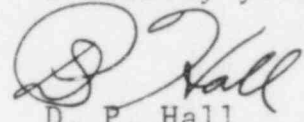
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Our investigation of these matters is complete. Illinois Power has reviewed and evaluated the findings associated with these investigations and has determined that the issues do not represent a reportable deficiency under the provisions of 10CFR50.55(e). Attachment A provides the details of our investigation.

We trust that this final 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,


D. P. Hall
Vice President

RLC/cxc

Attachment

cc: B. L. Siegel, NRC Clinton Licensing Project Manager
NRC Resident Office
Director, Office of I&E USNRC, Washington, DC 20555
Illinois Department of Nuclear Safety
INPO Records Center

ATTACHMENT A
Illinois Power Company
Clinton Power Station
Docket No. 50-461

Potential 10CFR50.55(e) Deficiency 55-85-09:
Inadequate Implementation of the Design Document
Review Process

Final Report

Statement of Potentially Reportable Deficiency/Background

A condition potentially adverse to quality was identified concerning BARE Civil/Structural Department's inadequate review of design change documents, including drawing revisions. BA Resident Engineering failed to fully identify all structural steel design changes and assure that travelers and procedures were revised as required by BA Procedure BAP 2.41, Design Document Review. As a result, the accomplishment of required design changes/modifications, by BA Civil/Structural Department, was indeterminate.

Illinois Power's Overinspection (IPOI) identified and documented on Nonconformance Reports (NCRs) specific instances of unincorporated design changes/modifications into structural steel installations. BARE also reviewed change documents against their travelers and noted unincorporated changes on Field Change Requests (FCRs), Engineering Change Notices (ECNs), Field Engineering Change Notices (FECNs) and NCRs.

The unincorporated design changes/modifications associated with this investigation are identified by the following:

<u>NCRs</u>	<u>NCRs</u>	<u>NCRs</u>	<u>FECNs</u>
51716	52296	52815	9222
51952	52315	52824	11319
52019	52348	52852	11789
52092	52369	52860	
52096	52405	52936	<u>TRAVELERs</u>
52135	52406	52944	S4181
52149	52418		CS2019
52159	52428		
52181	52473	<u>FCRs</u>	
52198	52505		<u>ECNs</u>
52199	52529	42020	
52227	52616	42274	4165
52236	52618	42939	4845
52246	52720	42963	4848
52258	52745		
52283			

ATTACHMENT A
(Continued)

In addition to the subject deficiency involving Baldwin Associates, another matter was identified concerning design changes to non-safety/non-seismic HVAC systems. These changes were accomplished by the Zack Company based on Zack Procedure FCP-23, Field Installation Problems.

Procedure FCP-23 allowed the Zack Company to implement minor changes to non-safety/non-seismic systems utilizing an approved Field Interference Notice (FIN). Changes accomplished under the FIN program did not require Sargent & Lundy (S&L) review and concurrence and therefore were not incorporated into S&L design documents. A concern was identified when some major modifications were found incorporated into the hardware utilizing FINs. The basis for the concern is that only minor modifications should have been incorporated using FINs. As a result, some major modifications were not reviewed by S&L, therefore producing an indeterminate hardware condition.

Investigation Results/Correction Action

Baldwin Associates

An investigation into the matter concerning Baldwin Associates' design document review process was conducted in three phases as follows:

- Phase I: A review was performed to identify the NCRs, FCRs, ECNs, FECNs, etc. which documented unincorporated design changes for structural steel.
- Phase II: An investigation and evaluation was performed on other areas of the Civil/Structural discipline to determine if work other than structural steel was affected by the identified program deficiency.
- Phase III: An investigation and evaluation was performed on the design document review process of other BARE disciplines to determine if the implementation deficiency was generic.

Phase I

Illinois Power Overinspection (IPOI) reviewed all NCRs initiated by IPOI involving structural steel inspection to verify that all NCRs had been identified which documented unincorporated changes. Additionally, BA Resident Engineering reviewed the design changes issued by S&L for incorporation into travelers by BA to identify change documents for unincorporated work on structural steel not yet released to IPOI for inspection. The identified deficiencies were referred to S&L for safety significance evaluation.

ATTACHMENT A
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Phase II

The investigation and evaluation of other work activities performed by the BARE Civil/Structural discipline did not identify similar deficiencies in these areas. A review of NCR trend reports did not identify any adverse trends on Civil/Structural work other than structural steel. However, to preclude recurrence of this condition, BA Civil/Structural has implemented additional training on BA Procedure BAP 2.41, Design Document Review. This procedure provides instructions for reviewing design change documents and implementing the design change into working documents (travelers). In addition, BAP 2.17.5, Commodity Turnover, was issued for implementation. This procedure requires BARE to confirm installation of commodities to assure current design configuration at time of turnover to IP.

Phase III

The investigation and evaluation of other BARE disciplines determined that the Civil/Structural discipline was the only discipline affected. Prior to implementation of the current BA Procedure, BAP 2.41, the Electrical and Mechanical disciplines utilized BA Job Instructions to perform a review of design change documents and implement the design change into working documents (travelers). BA Job Instruction P-026, Piping Traveler Review of Document Revision, and E-008, Electrical Drawing Review, provides the details of the required review.

Zack Company

Four items of concern were identified during our investigation regarding approximately 3,100 Zack design change documents. These concerns are summarized below:

- Item 1. Were safety/seismic components modified using FINs after lifting Stop Work Orders 14, 15 and 20?
- Item 2. Were non-safety/non-seismic components modified such that the interaction between safety/non-safety components was affected?
- Item 3. Were non-safety/non-seismic components modified by FINs, such that non-safety system functionality was affected?
- Item 4. Were FINs generated which modified non-safety/ non-seismic components such that the as-built conditions were not in conformance with S&L design drawings?

ATTACHMENT A
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Items 1 & 2

To resolve items Nos. 1 and 2, Zack reviewed the FINs and Design Change Requests (DCRs, which were the first generation FINs) to determine whether any safety/seismic components were modified by the FIN program. Zack then transmitted all FINs/DCRs along with their findings to IP for review to confirm the Zack findings. Following IP's review and concurrence with Zack's findings, IP transmitted the documents to S&L for a safety significance review and evaluation. S&L's review determined that safety/seismic components were not affected by the FIN program.

Item 3

To resolve item No. 3, S&L evaluated the functionality of the affected systems. The evaluation determined that minor modifications were required to meet non-safety system design function.

Item 4

To resolve item No. 4, IP and Zack performed a walkdown of non-safety/non-seismic HVAC systems. Inspection guidelines were developed and used in conjunction with the S&L design drawings for performance of the walkdown. The results of the walkdown were documented and transmitted to S&L for a system functionality review. S&L design drawings will be changed as necessary.

Root Causes

The root cause of BA's inadequate implementation of the design document review process was determined to be the failure by BARE Civil/Structural discipline to programmatically address design change review similar to the program utilized by the other BARE disciplines. Procedures (BAP 2.41, BAP 2.17.5 and BAP 2.0., Document Control) have been issued and implemented. These procedures will provide the guidance and controls necessary to assure that design changes are properly reviewed and implemented.

The root cause of the deficiency involving the Zack FIN program was determined to be a program discrepancy which resulted in major changes/modifications being performed under the FIN program without the Architect/Engineer's review. The Zack Company has issued internal directions to preclude further utilization of the FIN program.

ATTACHMENT A
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Safety Implications/Significance

Illinois Power's investigation of this issue is complete. Sargent & Lundy has reviewed and evaluated the uninstalled structural steel modifications and has stated (Ref: SLS-I-5337, SLS-I-5379 and SLS-I-5461) that the uninstalled structural steel modifications would not have resulted in a condition adverse to the safety of operations of the Clinton Power Station (CPS). Sargent & Lundy has also reviewed the non-safety/non-seismic related Zack Company FINs and DCRs which may have affected safety-related structures, systems or components and concluded that these changes do not result in a condition adverse to the safety of operation of CPS (Ref: SLMI-18142c). On this basis the issue is evaluated as not reportable under the provisions of 10CFR50.55(e).