

ILLINOIS POWER COMPANY

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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, IL 60137

Subject: Potential 10CFR50.55(e) Deficiency 55-84-12:  
Installation of Concrete Expansion  
Anchors in Floors with Finishing Slabs

Dear Mr. Keppler:

On June 4, 1984, Illinois Power Company notified Mr. D. Keating, NRC Region III, (Ref: IP Memorandum Y-20647 dated June 4, 1984) of a potentially reportable deficiency concerning the installation of concrete expansion anchors in floors with finishing slabs. Our investigation of this issue is continuing, and this letter is submitted as an interim report in accordance with the requirements of 10CFR50.55(e) (3).

#### Statement of Potentially Reportable Deficiency

Baldwin Associates Resident Engineering (BARE) provided Illinois Power Company (IPC) with a list, identifying supports installed on finishing/topping slabs. The concern expressed that the installation of the concrete expansion anchors for these supports may not meet the embedment length as required by the Sargent & Lundy (S & L) Specification.

#### Background

In February, 1984, Baldwin Associates Resident Engineering (BARE) provided Illinois Power Company with a listing of supports installed on finishing/topping slabs. This listing identified the support, the length of the installed anchor, the thickness of the finishing/topping slab, and the amount of anchor installed in rough concrete. Several of the expansion anchors identified have an effective embedment length of zero (0) inches (i.e., if the thickness of the finishing/topping slab is subtracted from the required effective embedment length).

Specification K-2944 requires the effective embedment length of concrete expansion anchors to be determined from the surface of the rough concrete.

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Illinois Power Company (IPC) requested that S & L evaluate for adequacy the mechanical component supports identified by BARE. Based on the data submitted, S & L has stated that none of the expansion anchors associated with the identified mechanical supports met the specification requirement.

S & L evaluated 58 installed supports for adequacy to design loads. Of the 58 supports evaluated, 14 were evaluated as inadequate for design loads.

#### Investigation Results/Corrective Action

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

1. A review of construction procedures governing the installation/inspection of concrete expansion anchors will be made to determine adequacy and compliance.
2. Based on the rough as-built drawings already generated, a complete listing of all potentially affected equipment/components will be compiled.
3. A complete set of composite as-built drawings will be generated which identifies all equipment/components installed on finishing/topping slabs which utilize concrete expansion anchors for installation.
4. The equipment/components identified by the listing generated in item 2, will be entered into the computer in a "search" for all documentation (i.e., NCR, FCR, etc.) that may have addressed these components. The documents identified by the "search" will be reviewed to identify those documents which address the problem of expansion anchor embedment.
5. All components with expansion anchors that violate the effective embedment criteria and do not have prior approval documentation, will be documented on Nonconformance Reports (NCRs) and dispositioned per site procedure.

The corrective action taken on this issue to date includes:

1. Baldwin Associates (BA) has issued Memo MA-31-84, dated June 6, 1984, reminding supervisory personnel of the requirement to install expansion anchors into the structural slab in order to achieve full embedment per S & L Specification K-2944, Form CPS-1-CEA.
2. Procedure BAP 2.16, Concrete Expansion Anchor Work, is being revised to clarify the requirement that expansion anchors must be installed in rough concrete.

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3. Instructions IPQAI 710-11, Concrete Expansion Anchor Overinspection Checklist, and BAQI 190-1, Concrete Expansion Anchor Field Verification, are in the process of being revised to provide the requirement to verify that expansion anchors installed in finishing slabs have full effective embedment.

Safety Implication/Significance

Illinois Power Company's investigation of this potentially reportable deficiency is continuing. The safety implications and significance of the issue will be assessed after further background information is evaluated. It is anticipated that approximately six (6) months will be required to complete our investigation and file a final report on the matter. Illinois Power Company intends to provide you an update on the investigation in approximately ninety (90) days.

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

Sincerely yours,

  
D. P. Hall  
Vice President

RLC/skt

cc: NRC Office  
Director, Office of I & E, USNRC, Washington, DC 20555  
Illinois Department of Nuclear Safety  
INPO Records Center