

50-461

ILLINOIS POWER COMPANY



1605-L
U-10011

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

November 20, 1982

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

Docket No. 50-461

Dear Mr. Keppler:

Potential Deficiency 82-12
10CFR50.55(e)
Binding of Sway Strut/Snubber
Piping Component Supports

On October 21, 1982, Illinois Power Company notified Mr. H. Wescott, NRC Region III, (Ref: IP memorandum Y-13998, 1605-L, dated October 21, 1982) of a potential reportable deficiency per 10CFR50.55(e) concerning the fabrication of sway strut type pipe supports, in that the location of welds on the eyelet of the sway strut interferes with the retaining bracket (clevis) such that the required motion of the sway strut may not be achieved. Our investigation into this matter is not complete, and this letter represents an interim report per 10CFR50.55(e).

Statement of Potential Reportable Deficiency

The welded male rod extension piece used in sway strut and snubber piping supports supplied by Basic Engineers (BE) binds in the pipe clamp and rear bracket, limiting the designed range of motion. The interference is generally caused by overwelding at the connection between the eyelet and threaded rod on the affected male rod extension piece. A contributing factor is the accumulative tolerances listed on BE's data sheets which can lead to interference. The binding could cause extra loads on the weld attaching the rear bracket (clevis) to the structure. This additional load could result in failure of the weld. Further investigation is necessary to determine the significance of this concern, and extensiveness of actions to correct this potential reportable deficiency.

Background/Investigation Results

During inspection activities of piping support installation by Baldwin Associates (IP Contractor), a sway strut type pipe hanger was

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found where metal to metal contact existed between the male rod extension piece and the pipe clamp. This condition does not conform with Baldwin Associates Procedure BAP 3.2.5 (Piping Component Supports), which requires the piece to pivot in all directions without binding. A Deviation Report (DR-3382) was initiated to document this occurrence. The metal to metal contact was between the pipe clamp and the weld which joins the eyelet to the threaded rod portion of the male rod extension piece, and caused the sway strut to bind in the pipe clamp, limiting the designed movement. Further investigation found that these male rod extension pieces are also used on sway strut type hangers to connect to the rear bracket (clevis), and, therefore, binding could also occur at this location. This concern was confirmed by a random inspection of installed sway strut hangers, which identified several interferences. Additionally, some mechanical snubbers utilize similar male rod extension pieces and could be subject to binding.

The problem was further investigated by the piping support supplier, Basic Engineers. This investigation found that the interferences were due to accumulative fabrication tolerances given on BE's data sheets for these types of supports. Investigation by Baldwin Associates determined that in some cases, overwelding of the eyelet to the threaded rod of the male rod extension piece also contributed to the interference. Further investigation is being performed to determine the adequacy of fabrication and welding tolerances specified on BE's data sheets to assure that the use of these tolerances do not result in binding of the hanger.

Corrective Action (Interim)

Although investigation of this potential deficiency is still in process, several actions have been or are being taken to identify and correct the problems, and to prevent recurrence:

1. Baldwin Associates has stopped issuing welded male rod extension pieces (BE part Nos. 415-1 and 411-2) to the field and fabrication shops. This action prevents further occurrences of interference until this issue has been investigated and resolved.
2. Baldwin Associates has revised their Quality Control Inspection Checklist (Form JV-698) for the inspection of sway strut hangers to include a "binding check". This checklist was revised on November 8, 1982.
3. Baldwin Associates has conducted training sessions with their Quality Control personnel on the subject of pipe hanger inspection, on November 1 & 2, 1982, which covered this topic.
4. Baldwin Associates Quality Assurance has intensified their vendor surveillance of Basic Engineer's fabrication activities, at BE's shops or through review of documentation, prior to release for shipment of pipe support materials.

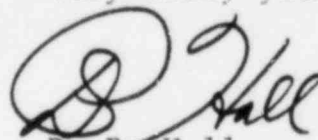
5. A field inspection of installed sway struts and snubbers supplied by Basic Engineers will be performed by personnel employed by Basic Engineers to define the scope of the problem. BE's shop inspection procedure was revised by BE and approved by Sargent & Lundy and Baldwin Associates to address their field inspection activities at CPS. The method of measurement for interferences will be prequalified on a shop mock-up to ensure its validity. Deviations found will be documented. The inspection team arrived at CPS on November 16, 1982, and it is expected to take approximately one (1) month to complete this activity.
6. Upon completion of the field inspection effort, the scope of this problem will be better defined, and a decision can be made on remedial action necessary to correct identified deficiencies. This action may include engineering analysis of the deficiencies, a parts replacement/rework program, or a combination thereof. After completion of this inspection, approximately sixty (60) days will be necessary to determine remedial action on the identified deficiencies.

Safety Implications/Significance

Until the inspection effort described above is complete and the scope of this potential deficiency is defined, it is not possible to assess the safety implication and significance of this concern. Additionally, the extensiveness of corrective action necessary to correct identified deficiencies through rework/replacement of parts, or through engineering analysis cannot be determined until the scope of this potential deficiency is defined. It is anticipated that approximately ninety (90) days will be necessary to define the scope of this potential deficiency, evaluate for significance, determine final corrective action to correct identified deficiencies and prevent recurrence, and to file a final report on this subject.

We trust that this interim report provides you sufficient background information to perform a general assessment of this potential reportable deficiency and overall approach to resolution of this problem.

Very truly yours,



D. P. Hall
Vice-President

J.G. Keppler
NRC

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cc: Director, Office of I&E, U.S. NRC, Washington, DC 20555
Illinois Department of Nuclear Safety
NRC Resident Inspector
Director - Quality Assurance