ILLINOIS POWER COMPANY

1605-L
U-10078

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

August 5, 1983

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: Potential Deficiency 55-82-11
10CFR50.55(e)
Incorrect Identification of
Base Material and Weld Procedures
on Piping Hanger Travelers

Dear Mr. Keppler:

On October 20, 1982, Illinois Power Company notified Mr. F. Jablonski, NRC Region III, (Ref: IP memorandum Y-13999, 1605-L, dated October 20, 1982) of a potentially reportable deficiency per 10CFR50.55(e) concerning the incorrect identification of base material and improper weld procedures on piping hanger travelers. This notification was followed by three (3) interim reports (IP letter D. P. Hall to J. G. Keppler U-10010, 1605-L, dated November 19, 1982, IP letter D. P. Hall to J. G. Keppler U-10023, 1605-L, dated January 17, 1983, and IP letter D. P. Hall to J. G. Keppler U-10051, 1605-L, dated April 27, 1983). Our investigation into this matter continues, and this letter represents an interim report per 10CFR50.55(e)(3).

## STATEMENT OF POTENTIALLY REPORTABLE DEFICIENCY

During final review of piping hanger installation travelers, it was discovered that incorrect base materials and improper weld procedures were identified on the travelers. This condition could potentially allow for incorrect welding and improper documentation of piping hanger installation.

## INVESTIGATION RESULTS/BACKGROUND

During a Baldwin Associates (IP Contractor) Technical Services Department final review of piping hanger installation travelers, it was realized that the wrong embed plate base material and improper procedures for welds between embed plates and piping hangers were identified on the documents. This error resulted in the issuance of a Nonconformance Report (NCR-7725). As a result of NCR-7725, the Baldwin Associates (BA) Quality



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Assurance Department issued a Corrective Action Request (CAR-105) which addressed improper initiation by BA Engineering and improper initial review by BA Technical Services on an undetermined number of piping travelers.

Upon investigation by Illinois Power into the problems identified by NCR-7725 and CAR-105, the following information was obtained:

1. Sargent & Lundy (CPS Architect-Engineer) design drawing S21-1001 allows the use of both ASTM A-36 and ASTM A-572 Grade 50 as embed plate material.

2. The BA Piping Department did not realize that an alternate type of material was allowed for embed plates. It was erroneously assumed that all embed plate material was ASTM A-36, subsequently, pipe hanger travelers were prepared identifying the embed base material as ASTM A-36. In reality, both ASTM A-36 and ASTM A-572 Grade 50 material were used.

3. The initial pipe hanger traveler review by BA Technical Services assigns a weld procedure to the traveler, based on the base materials identified on the document. Therefore, if erroneous base material information is identified on travelers, the possibility of assigning an incorrect welding procedure exists.

4. The weld procedure for welding ASME SA-36 (pipe hanger material) to ASTM A-36 (embed material) is designated as N-1-1-A-1M. The weld procedure for welding ASME SA-36 to ASTM A-572 Grade 50 (embed material) is designated as N-ASTM-A-SP. As ASTM A-36 material was identified on the travelers, weld procedure N-1-1-A-1M was subsequently indicated on the travelers by BA Technical Services. It should be noted that since these two welding procedures utilize the same filler material and the same essential variables, the welds are acceptable even though an incorrect weld procedure was specified.

5. The welders who performed the welds in question were qualified to perform both procedures.

6. A review of traveler programs in the electrical, instrumentation, mechanical equipment, and HVAC disciplines for weldments to embeds disclosed no welding procedure errors such as those identified above.

7. Investigation revealed that an ASME Code Case, N-71-10, states that an ASME weld procedure qualification (such as N-1-1-A-1M) with a base metal in one P-number and Group number (for ASTM A-36, P=1) qualifies for all other base metals in the same S-number and Group number (for ASTM A-572 Grade 50, S=1).

An extensive review of pipe hanger travelers was completed to determine if similar problems exist in weldments to other base materials, such as structural steel. Approximately 9200 travelers and addendums representing nearly 7500 hangers were evaluated. Of these, approximately 3600 travelers will require revision to correct or clarify base materials and/or weld procedures. Although a large number of errors were identified, it was generally found that the assigned weld procedures were adequate for the actual base materials used. Several cases were identified, however, where the weld procedures used may have been inappropriate for the combination of base materials used. Nonconformance Reports (NCRs) or Deviation Reports (DRs) are being written to document these problems and obtain disposition of the welds.

Another issue that has been identified through investigation of this potential deficiency concerns the materials used for fabrication of rear brackets for pipe hangers supplied by Basic Engineers for use at Clinton Power Station. The vendor's detail drawings indicate ASME SA-36 material for these brackets, however, more recent Load Capacity Data Sheets indicate that alternate materials ASME SA-181, Grade II, ASME SA-515 Grade 70 and ASME SA-516 Grade 70 may have been used. The field weld procedures used would be correct even if these alternate materials had been used since the materials are of all P-1 group number.

## CORRECTIVE ACTION

Although investigation of this potential deficiency continues, several actions are being taken to correct the problem and to prevent recurrence:

1. BA Piping Department has conducted department training relevant to traveler initiation and the importance of supplying correct material identification information on work related documents. This training was completed on December 22, 1982.

2. For those piping hanger travelers in which welds to embeds have not been started, BA Piping Department is indicating that embed base materials are either ASTM A-36 or ASTM A-572 Grade 50, and that the applicable weld procedure is either N-1-1-A-1M or N-ASTM-A-SP, to show that alternate materials and weld procedures exist. For those travelers where welding to embeds has been started or is complete, a copy of NCR-7725 is being included to correct the documents.

3. In those cases where an incorrect base material and weld procedure were identified on a traveler and the weld is in-process or complete, an NCR or DR will be written to obtain disposition of the weld and a copy will be included in the traveler to correct the document. In those cases where documentation errors were identified through the review process and the

welds have not been started, the travelers will be revised to identify the correct or alternate base materials and correct weld procedures that apply.

4. On December 12, 1982, Sargent & Lundy (CPS Architect Engineer) accepted the recommendation on NCR-7725 to accept the welds as-is. The Piping Specification, K-2882, has subsequently been amended to allow the use of Code Case N-71-10.

SAFETY IMPLICATIONS/SIGNIFICANCE

Although documentation errors have been identified, it has been generally found that the associated weldments are acceptable. Cases where inappropriate weld procedures were used will be evaluated to determine if an adverse impact on the safety of operations of CPS could have resulted had the error gone uncorrected, and whether a significant deficiency has occurred. Approximately ninety (90) days will be necessary to complete the investigation and to file a final report on the subject.

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

Sincerely yours,

D. P. Hall
Vice President

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cc: Director, Office of I&E, US NRC, Washington, DC 20555
Illinois Department of Nuclear Safety
NRC Resident Inspector
Manager-Quality Assurance
INPO Records Center