

ILLINOIS POWER COMPANY



1605-L
U-10139
500 SOUTH 27TH STREET, DECATUR, ILLINOIS 62525

April 4, 1984

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 six (6) 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, IP letter D. P. Hall to J. G. Keppler U-10051, 1605-L, dated April 27, 1983, IP letter D. P. Hall to J. G. Keppler U-10078, 1605-L, dated August 5, 1983 IP letter D. P. Hall to J. G. Keppler U-10106 dated November 14, 1983, and IP letter D. P. Hall to J. G. Keppler U-10129 dated February 22, 1984). Our investigation into this matter has determined that the issue does not represent a reportable deficiency under 10CFR50.55(e). This letter represents a final report in accordance with 10CFR50.55(e)(3).

STATEMENT OF POTENTIALLY REPORTABLE DEFICIENCY (WITHDRAWN)

During final review of piping hanger installation travelers, it was discovered that incorrect base materials and improper weld procedures were identified on the travelers. Although some cases of incorrect welding resulted from the documentation errors, no adverse impact on the safety of operation of CPS would have occurred had the hardware errors gone uncorrected.

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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 Assurance Department issued Corrective Action Requests CAR-105 and CAR-121 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 CARs-105 and 121, 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.
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).

A review of nearly 9000 pipe hanger travelers and addendums was completed to determine if similar problems existed in pipe hanger weldments to other base materials, such as structural steel. Of these, approximately 3600 travelers required revision to correct or clarify base materials and/or weld procedures. Although a large number of base material identification errors were identified, it was generally found that the assigned weld procedures were adequate for the actual base materials used. In some cases, it was identified that the weld procedures used were inappropriate for the combination of base materials used. Nonconformance Reports (NCRs) or Deviation Reports (DRs) were written to document these problems and obtain disposition of the welds. However, only three (3) hanger welds were identified as requiring physical rework due to the use of an unacceptable weld procedure.

Another issue that was 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-105, ASME SA-515 Grade 70 and ASME SA-516 Grade 70, may have been used. However, pipe hanger travelers generally identified the material as ASME SA-36 or as P-1 material. Since the materials are all of P-1 group number, the field weld procedures used were correct even though alternate materials may have been supplied by the vendor.

CORRECTIVE ACTION

The following actions are being taken to correct identified documentation problems and to prevent recurrence:

1. BA Piping Department has conducted departmental 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 has indicated 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-l-A-lm 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 was included to correct the documents.


3. In those cases (other than welds to embeds) 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 has been written to obtain disposition of the weld and a copy was included in the traveler to correct the document. In those cases where documentation errors were identified through the investigation review process and the welds have not been started, the travelers were revised to identify the correct or alternate base materials and correct weld procedures that apply.
4. The Piping Specification, K-2882, has been amended to allow the use of Code Case N-71-10.
5. Baldwin Associates Procedures BAP 3.2.5 and BAP 2.6 will be revised to clarify methods of documenting the materials of pipe hanger rear brackets on travelers.

SAFETY IMPLICATIONS/SIGNIFICANCE

Although documentation errors have been identified, it has been generally found that the associated weldments are acceptable. In the three (3) cases identified where inappropriate weld procedures were used and the hangers require rework, an evaluation determined that no adverse impact on the safety of operations of CPS would have resulted had the hardware gone uncorrected. On this basis, the issue is considered to be non-significant, and therefore, not reportable under 10CFR50.55(e).

We trust that this final report provides you sufficient information to perform a general assessment of this issue and adequately describes our overall approach to resolve the problem.

Sincerely yours,



D. P. Hall
Vice President

RDW/jf

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