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ILLINOIS POWER COMPANY



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

March 7, 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 10CFR50.55(e) Deficiency 55-84-05  
Incorrect Material Substitutions in Large Bore Pipe

Dear Mr. Keppler:

On January 27, 1984, Illinois Power Company notified Mr. F. Jablonski, NRC Region III (ref: IP memorandum Y-18562) of a potentially reportable deficiency per 10CFR50.55(e) concerning improper substitution of 12" standard wall pipe in place of 12" schedule 40 wall pipe by the General Contractor, Baldwin Associates, in the main steam downcomers.

Our investigation of this issue continues, and this letter represents an interim report in accordance with 10CFR50.55(e).

Statement of Potentially Reportable Deficiency

During a review of piping isometric drawings and spool modification drawings for all ASME safety related large bore pipe, it was discovered that sections of 12" nominal standard weight pipe ( $t_n = 0.375"$ ) had been installed in the main steam downcomers and hanger trunnions in place of 12" schedule 40 ( $t_n = 0.406"$ ) pipe. The review has further identified another substitution in a different system where 14" schedule 40 pipe ( $t_n = 0.438"$ ) was installed when 14" standard weight pipe ( $t_n = 0.375"$ ) was required.

There have been two cases identified to date where ASME III, Class 2 pipe (SA106 Gr. B) has been improperly installed in a Class 1 system. The engineer's (Sargent & Lundy) design specification requires that the piping material be normalized for the Class 1 application, but not for Class 2 use. The material installed is certified for Class 2 use only.

An evaluation of these issues is underway to determine the extent of the problems and their significance to the safety of operations at CPS.

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Investigation Results/Background

Illinois Power Company presently is conducting an investigation under 10CFR50.55(e) into the matter of Inspection of Piping Counterbore (ref: 55-83-02). The investigation requires the Baldwin Associates (BA) Piping Engineering Department to identify all weld joints where internal diameter mismatch may require inside diameter grinding or counterboring. The review of the isometric drawings and spool modification drawings requires verification of sizes and wall thickness, especially when BA was required to modify spool pieces manufactured off site by the piping fabricator. Out of this review, cases were identified where standard weight pipe was installed in place of schedule 40 pipe and vice versa.

The wall thickness for standard weight and schedule 40 pipe is the same for pipe sizes up to and including 10" nominal. At 12" nominal, the wall thickness for the classes diverge. It has been learned that the 12" diameter pipe was correctly requisitioned from the warehouse as schedule 40; however, standard weight pipe was issued and installed.

Cases were also found where ASME III, Class 2 material was installed when Class 1 material was required by the design specification.

The identification of incorrect site substitution of material gave cause to initiate a separate 10CFR50.55(e) investigation for the matter.

The installation travelers for the main steam downcomers had been through a review by the Document Review Group (DRG). The substitution of pipe with incorrect wall thickness had not been identified. The procedure BQAI-110-11, Rev. 1, Final Review of Piping/Mechanical Record Packages, requires the reviewer to verify that the material used conforms to Code/Class/Specification. It does not specifically address the attribute of wall thickness or ASME Code Class. No action is required to review the Piping Line List and verify the schedule/wall and material specified in the traveler is consistent with the design.

Nonconformance Reports have been written to obtain resolution of the hardware irregularities and evaluation of significance.

Corrective Action

1. The Piping Engineering Department will review all safety-related isometrics and spool modification drawings and travelers for incorrect material substitutions. Nonconformance Reports will be written for all discrepancies identified.

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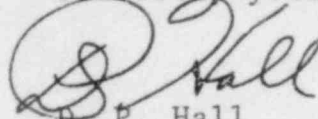
2. It is estimated only 800 feet of large bore pipe remains to be installed at Clinton Station. To preclude any further incorrect material substitution, however, Baldwin Associates Quality Control Department will establish additional hold points at the issue point and/or fit up point to verify wall thickness and class.
3. The procedure BQAI-110-11 will be revised to include the specific attributes for verification of piping wall thickness and material classification.
4. Further training with revised lesson plans will be conducted for Document Review Group personnel on the requirements of the procedure change and the problems inherent in wall thickness/material classification changes.
5. Measurements of installed pipe wall thickness will be performed in accordance with the Baldwin Associates Field Verification/Illinois Power Overinspection Programs to assure that piping of adequate wall thickness have been installed at CPS.

Safety Implications/Significance

Illinois Power Company's investigation of this potentially reportable deficiency is continuing. The safety implications and significance of this issue will be assessed after further reviews are conducted and any resulting NCRs are analyzed. 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 describes our approach to resolve this issue.

Sincerely yours,

  
D. P. Hall  
Vice President

MP/lag

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