



Commonwealth Edison

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July 31, 1984

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

Subject: Braidwood Station Units 1 and 2
Response to Inspection Report
Nos. 50-456/84-09 and 50-457/84-09
NRC Docket Nos. 50-456 and 50-457

Reference (a): R. F. Warnick letter to Cordell Reed
dated July 2, 1984

Dear Mr. Keppler:

This letter is provided in response to the inspection conducted by Messrs. L. G. McGregor and R. D. Schulz on May 1 through June 4, 1984 concerning the activities at our Braidwood Station. Reference (a) indicated that certain activities appeared to be in noncompliance with NRC requirements. The Commonwealth Edison Company response to the Notice of Violation is provided in the Enclosure.

Very truly yours,

Dennis L. Farrar
Director of Nuclear Licensing

Enclosure

cc: NRC Resident Inspector - Braidwood

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ENCLOSURE

COMMONWEALTH EDISON COMPANY

RESPONSE TO INSPECTION REPORT

Nos. 50-456/84-09 and 50-457/84-09

ITEM OF NONCOMPLIANCE:

1. 10 CFR 50, Appendix B, Criterion V requires that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings and shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

ANSI N45.2.8, 1975, requires in paragraph 2.9, that engineering limitations be incorporated into procedures and instructions and shall include physical clearances; and paragraph 2.1 requires that activities shall be planned and documented to be consistent with engineering and design requirements.

Contrary to the above, the architect engineer, Sargent and Lundy, did not prescribe clearance criteria for safety related HVAC components or safety related large bore (greater than 2") piping in relation to other items such as equipment, conduit, cable tray, or piping, and also failed to prescribe clearance criteria for safety related electrical items, such as cable tray or conduit, in relation to all piping, HVAC components, or equipment in documented instructions, procedures, or drawings. As a result, design control measures for installation and inspection activities were not adequate in that they did not address:

- Hydraulic and thermal considerations that require flexibility and movement of items, including pipe supports, and the affect on items due to their close proximity or direct contact with each other,
- Stress and compatibility of materials due to metal to metal contact and therefore subsequent item deterioration, degradation, or failure resulting from factors such as piping thermal expansion,
- Accessibility of items for in-service inspection, maintenance, and repair,
- Functional reliability of a component or item due to interferences.

Furthermore, clearance installation limitations have not been required to be met by the contractors and therefore physical clearances have not been planned by craft personnel or documented in quality control inspection reports to assure the prompt identification of installation conditions adverse to quality.

Response to Item 1

RESPONSE

The Commonwealth Edison Company agrees that there was a lack of specific clearance guidelines in the contractors' specifications for safety related HVAC components and large bore (greater than 2") piping.

CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED

Commonwealth Edison issued NCR Nos. 621 (Unit 1) and 622 (Unit 2) to document the lack of specific and consistent clearance guidelines in each contractor's specification. To correct this problem, Commonwealth Edison and Sargent and Lundy are developing the necessary qualitative and quantitative clearance information to be included in each contractor's specification. These guidelines will include:

1. Good workmanship practices to allow clearance for inspection, maintenance, repair, and functional operability of equipment and components.
2. No metal to metal contact.
3. Clearance between piping and other items to accommodate thermal expansion and movement.

The extensive use of the seismic supports in Category 1 areas has eliminated the possibility of damage to safe shutdown equipment due to seismic or hydraulic events.

From these guidelines, the contractors will develop the procedures necessary to implement the specification requirements.

CORRECTIVE ACTION TAKEN TO AVOID FURTHER NONCOMPLIANCE

Systems are in place to prevent or correct problems which occur or may occur because of clearance deficiencies. These were in place or planned prior to the Reference (a) inspection.

Response to Item 1 (continued)

The Commonwealth Edison Company plans for Sargent and Lundy to perform a final area walkdown to evaluate close contact points and/or specific dimensions required by the mechanical, electrical, and HVAC disciplines. The procedures to be used for this walkdown were utilized at Byron Station and are currently under review for revision to include Braidwood Station unique requirements. These area walkdowns will commence at least 6 months prior to fuel load. The similar walkdown inspection conducted at our Byron Station resulted in very few items requiring physical rework.

An equipment removal meeting held periodically by Commonwealth Edison and Sargent and Lundy identifies maintenance and repair requirements. This meeting also identifies and resolves problems including interference concerns discovered in the field which affect maintainability and operability. In addition, our deficiency system used for system turnover is being used to identify and disposition operability or maintainability interferences discovered during system turnover and testing.

The Commonwealth Edison Company experience at both our LaSalle County and Byron Stations during the area walkdowns and hot linewalk inspections indicates that interference or close clearance points have not been a major problem.

DATE OF FULL COMPLIANCE

The ECNs incorporating the clearance guidelines into the contractors' specifications are expected to be issued by August 31, 1984.

Item of Noncompliance

2. 10 CFR 50, Appendix B, Criterion V, requires that activities affecting quality shall be accomplished in accordance with the instructions, procedures, or drawings.

Whip restraint drawing 1WR-RC1-6 Revision A, Field Change Order #5497, Weld Data Sheets FW-12 and FW-14, and F/L-2909 Amendment 6, dated October 12, 1979 - Specification for Pipe Whip Restraints all require ASTM A572 GR.50 material for a 1'9" x 2'1" x 1" whip restraint plate.

Contrary to the above, material installed for the 1'9" x 2'1" x 1" whip restraint plate, identified on drawing 1WR-RC1-6 Revision A, was ASME SA-516 GR.60.

Response to Item 2

RESPONSE

The Commonwealth Edison Company agrees with this Finding.

CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED

The subject of material substitutions on whip restraints had previously been identified by the Mechanical Contractor (Phillips, Getschow Co.) in an internal Quality Assurance Audit dated 1-24-84 (Internal Audit #83-BR22). The audit revealed seven instances of material substitutions being made in violation of the contractor's procedure.

The response to the audit stated that nonconformance reports would be issued for the seven violations discussed above. In addition, the contractor committed to review all whip restraint packages to determine if similar conditions existed and, if any were identified, additional nonconformance reports would be initiated.

At the time the Reference (a) inspection identified the violation on whip restraint 1WR-RC1-6, the review of all whip restraint packages had been completed (completed 4-13-84). The contractor took steps at that time to annotate the log used during the review to identify these installations that were nonconforming (completed by 5/21/84), and to initiate nonconformance reports where applicable.

Response to Item 2 (continued)

Below is a listing of the documentation initiated as a result of the contractor's review of the whip restraint packages for material substitution problems:

<u>NCR</u>	<u>DATE PREPARED</u>	<u>WHIP RESTRAINT</u>	<u>FCR</u>
1533	5-18-84	1WR-FWR-38	N/A
1534	5-18-84	1WR-FWR-2-6	N/A
1535	5-18-84	2WR-SI4R-15B	N/A
1536	5-18-84	2WR-FWR-36	L-13462
1537	5-18-84	1WR-FWR-2	L-14544
1537	5-18-84	1WR-FWR-P6	L-14682
1537	5-18-84	1WR-MS-P11	L-14565
1537	5-18-84	1WR-MS-P17	L-14564
1537	5-18-84	1WR-MS-P26	L-14563
1537	5-18-84	1WR-RC1-1	L-14688
1537	5-18-84	* 1WR-RC1-6	N/A
1539	5-18-84	2WR-RC4-1	N/A
1809	7-26-84	1WR-MS-R12x	N/A
1810	7-26-84	1WR-MS-P16	N/A
1810	7-26-84	2WR-FWR-5	N/A
1811	7-27-84	1WR-FWR-19	N/A

* Nonconforming whip restraint identified in Reference (a).

CORRECTIVE ACTION TAKEN TO AVOID FURTHER NONCOMPLIANCE

The contractor, as a result of his internal audits previously discussed, had already taken corrective action to avoid further noncompliance by revising the procedure which governs whip restraint installation activities (Phillips, Getschow Company Procedure PGCP-18). The revised procedure (Revision 10, effective 4-17-84) requires documented approval by the contractor's engineering organization prior to effecting material substitutions. In addition, the revision requires the Superintendent to enter the heat number of the material being installed on the production drawing and provides for Quality Control verification. Training was conducted for the appropriate contractor personnel on the revised procedure. In our judgement, no further corrective action is considered necessary.

DATE OF FULL COMPLIANCE

Completion of the closeout of the NCRs is expected by October 31, 1984.