## U.S. NUCLEAR REGULATORY COMMISSION OFFICE OF INSPECTION AND ENFORCEMENT

## REGION III

Report No. 50-358/78-25

Docket No. 50-358

License No. CPPR-88

Licensee: Cincinnati Gas and Electric Company 139 East 4th Street Cincinnati, OH 45201

Facility Name: Wm. H. Zimmer Nuclear Power Plant

Inspection At: Zimmer Site, Moscow, OH

Inspection Conducted: October 24-26, 1978

Inspectors: T. E. Vandel

G. F. Maxwell to J. Hughes D. W. Hayes, Chief

Approved By:

Projects Section

Inspection Summary

Inspection on October 24-26, 1978 (Report No. 50-358/78-25) Areas Inspected: Special Inspection of the installation of electrical cables and components and review of related quality records. Results: No items of noncompliance or deviations were identified.

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## DETAILS

#### Persons Contacted

Cincinnati Gas and Electric Company (CG&E)

\*B. K. Culver, Manager of Construction \*R. P. Ehas, QA&S Engineer \*W. W. Schwiers, Principal QA&S Engineer

Kaiser Engineers Incorporated (KEI)

\*R. Marshall, Project Manager \*R. E. Turner, QA Manager

\*Denotes those present at the exit interview.

The inspectors also contacted other employees and craftsmen during the inspection, including representatives of CG&E, KEI, Foothill Electric Company (Foothill), and Reactor Controls, Inc., (RCI).

Functional or Program Areas Inspected

Purpose of Inspection

On October 12 and 16, 1978, the RIII office received information by telephone from an individual who had concerns about certain electrical construction activities at the Zimmer site. However, on October 17, 1978, the RIII office was notified by this individual that he no longer had these concerns and that he would not discuss this matter with the NRC any further.

Following an evaluation of the aforementioned events by RIII management, the decision was made to perform a special inspection at the Zimmer site to make independent observations of electrical construction activities which involved those areas of concern that had been reported to Region III.

The results of those independent observations are documented as follows.

- 1. Cable Tray Systems
  - a. The RIII inspector observed that cable tray riser sections RK1153, R1154 and R1155 located in the Reactor Building at elevation 525' have 3/8" holes drilled in the back of the risers. In response to questioning, the licensee presented the inspector with Design Document Change (DDC-E-3665) dated September 22, 1978. The purpose of

this design change was due to certain riser configuration (S-type) and loading (overfill), which allows installation of cable ties to hold cables within the cable tray pan.

b. The RIII inspector observed that side rail extensions were being installed on existing cable trays 'n various areas throughout the plant. Further review in this area established that when side rail extensions are required to increase the capacity of the tray system, due to overfill of cables, they are to be installed in accordance with an approved drawing. S&L drawing E-13-2, revision F, dated May 8, 1978, incorporated design document change DDC-E-2599 regarding the side rail installation details, was being used.

The inspector also observed that KEI is drafting an inspection procedure for the inspection of the installed side rail extensions.

- c. The inspectors observed that cables, not properly supported, have been identified as a generic condition. Examples of this condition being addressed are documented in nonconformance reports numbered NR2450 and NR2481. It was noted that several nonconformance reports addressing similar nonconforming conditions have been "voided;" the inspector was informed that in each case, inspection personnel were informed as to why the reports were "voided."
- d. The inspectors observed that protective softeners are being installed on the edges of cable trays (where sharp edges may damage the cable jackets). Additionally, it was observed that inspection of cable trays for sharp edges is one of the required installation inspection checkpoints which have not yet been completed for all cable tray installations. CG&E and Kaiser quality assurance personnel informed the inspectors that the protection of cables from sharp edges is an on-going surveillance type of inspection activity.
- e. The inspectors observed that design document changes DDC 3602 and 3603 were written about the unsatisfactory installation supports of "nonsafety" cable trays installed above annunciator panels 1PA04JA and

- 3 -

1PA04JB. The inspector was informed, by Kaiser OA personnel, that S&L is designing cable hangers to correctly support those cable trays identified in the above listed DDC's.

- f. The inspectors observed that a nonconformance report NR No. N-638 has been written to document and require repair of "associated" cables which have been damaged by being walked on. <u>NOTE</u>: Associated cables are "nonsafety" non "Class 1E" electrical cables which have been associated with "Class 1E" cables during their installation. For example, if a non Class 1E cable is routed through any portion of a Class 1E raceway system, the cable will be identified as an associated cable for that particular electrical division.
- g. The inspectors spot-checked various areas of the plant and observed that there are cases where cables jump cable trays without being routed through conduit. However, in each instance (where the inspectors made these observations) the Kaiser quality assurance personnel had previously identified the nonconformance. The inspector noted that this is an ongoing inspection function which the assigned Kaiser cable installation inspectors are required to perform.
- h. The RIII inspector reviewed Design Document Change DDC-E-3710 dated October 3, 1978 which addresses overfill conditions of the cable tray system. It was also learned that the site engineers are continuously evaluating cable tray overfill and are taking necessary corrective action to prevent further overfill of tray systems.
- Concerning Class IE cables stored on reels and electrical switchgear stored inside permanent buildings, the inspectors observed:
  - At least 15 cable reels were stored in a controlled area located in the Turbine Building. The cables had their ends sealed with tape and were stored in rows such as not to allow the sides of the reels to overlap adjacent reels.
  - The internals of at least 15 Class 1E electrical panels were inspected for cleanliness. The

- 4 -

inspectors observed that two of the panels contained metal filings on the floor. The two panels (1PL10JB and 1PL10JC) had been identified by Kaiser quality assurance personnel in nonconformance report numbered NR2149, which has not been closed. During the exit interview, the inspectors were informed that these two panels were being cleaned at the time of the exit interview and that the NR would be closed before the end of the day.

# 2. Conduit Installations

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- a. The inspector observed that the conduit and cables identified in nonconformance report E1270 had been removed. The inspector was informed that the conduit and cables will be replaced such that the cables, contained within the conduit, will not exceed their minimum bend radius.
- b. The inspector observed that the ground cables for all conduit sleeves have not yet been installed and inspected. The inspector was informed that the entire raceway grounding system will be inspected on an area basis in accordance with a grounding inspection procedure which is in draft form. It was established that the grounding procedure will be ready for implementation by November 27, 1978.

## 3. Records

A review of the surveillance reports log and copies of selected separate reports was made. It was learned that a. earlier in the year, prior to July 1978, some surveillance reports had not been converted to nonconformance reports (NR's) after the thirty day limitation as required by the procedure (G-14 revision 1). In response to questioning, the inspector was informed that this failure had been identified by KEI personnel and that a systematic review of all surveillance reports was undertaken to review all reports and closeout or convert to NR's if necessary. This task is currently in progress and appeared to the inspector to be approximately 75% complete. The inspector inquired as to the status of surveillance report SR-1236 regarding grounding of electrical system and learned that although this report is still open, it is being addressed

- 5 -

by DDC SLE-287 regarding grounding standards, and by a draft Construction Inspection Plan (CIP) being prepared specifically for the grounding system inspection. It was added that although the electrical grounding system is not considered to be safety related, the licensee has directed that the CIP be prepared and performed.

b. The NR control log was reviewed by the inspector. All NR's issued receive control numbers (CN's) while essential (safety related) NR's are additionally sequentially numbered preceeded by the letter "E". To date, a total of 2631 NR's have been issued with 1411 E category NR's.

As of this date in excess of 600 NR's (CN's) are currently in an open status. In response to questioning it was learned that a weekly tabulation of open NR's is issued weekly to all managers with those NR's available to be worked on highlighted. In addition, a monthly computer run is issued for further information. A number of NR's were reviewed that had been voided, NR's 2578, 2579, 2580, 2581, 2393, 2394, 2395, 2396 all were voided on October 10, 1978. These all were relative to cable placing in the trays and all were voided with the notation "see DDC 3710." No example was observed by the inspector of voided NR's without a justification. The inspector did learn that at one time a few voided NR's were not maintained as records, however, a new revision is being issued to QAP 16 (Rev. 3) that will require voided NR's to be maintained as a record.

c. The inspectors reviewed the training records for assigned site electrical inspection personnel. The records indicated that personnel are being familiarized with the applicable requirements before being assigned to conduit inspection functions. The inspector noted that an internal audit of Kaiser (Audit report number 345) identified some concerns. Also, that action is being taken to resolve those concerns.

## Exit Interview

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The inspectors met with licensee representatives (denoted in the Persons Contacted paragraph) at the conclusion of the inspection on October 26, 1978. The inspectors outlined the scope of the inspection and presented the results of inspection for each identified concern. In conclusion, the inspectors indicated

- 6 -

that no items of noncompliance or unresolved matters were identified as a result of the inspection, and further indicated that they had no further questions.

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