U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-358/83-28(DE)

Docket No. 50-358 License No. CPPR-88

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

Facility Name: W. H. Zimmer Nuclear Power Station

Inspection At: W. H. Zimmer, Moscow, Ohio

Inspection Conducted: December 27-30, 1983

Inspectors: K. Naidu 1/25/84
Date

E. Christnot 1/25/84
Date

Z. Falevits 1/25/84
Date

Approved By: C. C. Williams, Chief 1/25/84
Plant Systems Section Date

Inspection Summary

Inspection on December 27-30, 1983 (Report No. 50-358/83-28(DE))
Areas Inspected: Routine, unannounced inspection and review of licensee action on 50.55(e) items, previously identified findings, QCP inspection program and observation of installed electrical and instrument panels. This inspection involved a total of 78 inspector-hours onsite by three inspectors including 6 inspector-hours onsite during off-shifts.
Results: Of the areas inspected no items of noncompliance were identified.

DETAILS

1. Persons Contacted

a. Cincinnati Gas and Electric Company (CG&E)

Nuclear Engineering Department (NED)

J. Conant, Engineer
*M. Jonovski, Assistant Engineer
*D. Shih, Section Leader

Nuclear Licensing Department (NLD)

G. C. Ficke, Manager
G. L. Miller, Engineer
*D. J. Stephenson, Engineer
*G. F. Gonzalez-Rivaz, Engineer

Quality Assurance Department (QAD)

*J. J. Wakd, Director, Operations QA

Quality Confirmation Program (QCP)

D. Wille, Assistant Director
G. M. Orloff, Director
R. Hayden, Inspector

Quality Inspection Surveillance (QIP)

M. Kopp, Lead Electrical Inspector
*R. T. Antony, Quality Engineer
*D. L. Erickson, Director, RE&C Department

b. Sargent and Lundy (S&L)

M. Ahmad, Design Engineer
S. Sennerikuppam, Design Engineer

*Denotes those present at the exit meeting on December 30, 1983.

2. Licensee Action on 50.55(e) Items

(Closed) 50.55(e) Item. CG&E Item E-34, Cable tray overloading. The inspectors reviewed the licensee's action on Item E-34 cable tray loading. Records indicate that a total of 14 tray sections, consisting of 22 cable tray supports were suspected of exceeding the 40 pounds per square foot maximum stress as specified in the final safety analysis report. The 22 supports were individually reviewed by Sargent and Lundy (S&L) and the results confirmed the supports to be within allowable stress. Cincinnati Gas and Electric audited the S&L review on February 14-18, 1983. The inspectors concurred that this is not a reportable item.

(Open) 50.55(e) Item. CG&E Item E-49, Fan blades inadequately tightened. The inspectors reviewed the licensee's action on loose nuts on substation cooling fan blades. Records indicate the holding nuts of the cooling fan blades on the transformers were inadequately tightened in five substations - 1AP05E, 1AP06E, 1AP09E, 1AP10E and 1AP13E, and required replacement with locking nuts. However the inspectors could not determine that the holding nuts had actually been replaced with locking nuts. This item will remain open pending further action by the licensee.

(Open) 50.55(e) Item. CG&E Item E-16, Cracking of coil bobbins in General Electric type HFA relays. The corrective action proposed to resolve this problem addressed in CG&E Inter Department correspondence letter dated December 15, 1983 is to replace all existing HFA relays with Century 100 series HFA relays for both Nuclear Steam Supply Systems (NSSS) and Balance of Plant (BOP) safety-related systems.

The following has been completed per above letter:

a. Relays have been received at site and have been identified in CG&E ECR-807 Revision 2.

b. During a current CG&E review, 31 additional relays were identified for replacement on NSSS and BOP safety-related systems. GE was notified to revise FDI TUFV to include these relays.

c. A follow up report will follow in 60 days. An intercorrespondence C&I 83-128/NED-83-117 dated June 27, 1983 states that there are possible problems with "Century 100" Series relay type 12HFA173K(-)A. The licensee agreed to provide additional information on the course of action.

3. Licensee Action on Previously Identified Findings

(Open) 79-39-02 Noncompliance. Inspections of electrical modifications by Electric Operating Test Department (EOTD). It was previously identified that electrical craft personnel were performing wiring modifications. The inspectors reviewed inspection report file 79-39 and the records indicated that an audit report and random surveillances have not been performed. Pending review of licensee's records of audit and surveillances this item remains open.

(Open) 79-03-03 Unresolved Item. It was previously identified that hanger supports for instrument lines and electrical conduits were welded to containment liner leak test channel (CLLTC). The inspectors reviewed S&L report SAD-348 Revision 2 dated February 21, 1980 and several other reports. NRC/NRR received, reviewed and approved a report of the supports which had already been installed. No further attachments were to be installed. The licensee agreed not to install additional supports. However, the internal memoranda implied that further attachments require prior S&L approval; not a definite prohibition against further installation. Pending review of licensee's directive not to install further hangers, this item remains open.

(Closed) 79-12-07 - Open Item. It was previously identified that the activities related to the Down Comer Modification would be further reviewed. Results of the observation of these activities are documented in subsequent reports.

(Closed) 79-12-08 - Open Item. It was previously identified that activities related to the installation of the baseplates for the "T"-Quenchers would be reviewed further. Results of the observation are documented in subsequent inspection reports.

4. Review of Licensee's Inspection Program

The inspectors reviewed the current status of the Quality Conformation Program (QCP) with respect to Task 6, cable separation. Licensee's representatives informed the inspectors that as a result of NRC Report 81-13 and the Region III immediate action letter, the QCP was established and consisted of a total of 16 Tasks. Task 6 required a walkdown of cable trays and raceways to verify separation requirements. Nonconformance reports were written each time a discrepency was identified. An additional walkdown was performed by Nuclear Engineering Department (NED) with input from Quality Control (QC) to assist QCP with the assessment of panel to raceway separation, penetrations' separation and juction box separation. The criteria used during the walkdowns were provided to the QCP and NED by Sargent and Lundy (S&L). The NED wrote interaction report sheets, each having a unique identifier, to document the discrepencies identified and the report sheets were forwarded to S&L for analysis and disposition. The sheets were then returned to NED, either providing an analysis or requesting the issuance of nonconformances.

5. Observation of Installed Electrical and Instrument Panels

The inspectors observed selected electrical and instrument panels to verify the adequacy of the joint inspection performed by Sargent and Lundy (S&L) and CG&E personnel, relative to the separation of electrical cables. The following are the results.

a. Local Instrument Panel 1H22-P004 RPV Level and Pressure Instrument Panel, Engineered Safeguards System (ESS) Division 3 Reactor Protective System (RPS) A1.

The inspectors observed the electrical cable separation between the following cables and identified no adverse findings.

(1) NB785 Segregation Code (SC 1YK) connecting the above panel to Feedwater and Recirculation instrument panel 1H13-P612.

(2) RT710 (SC 11K) connecting the above panel to temperature element 1G33-N007.

(3) NB100 (SC 1YC) connecting the above panel to Outboard Containment Isolation Panel 1H13-P623.

(4) RP073 (SC 11K) connecting the above panel to Visual Annunciator Input Cabinet 1PA 04JB.

(5) AP761 (SC 1YC) connecting the above panel to 120 Volt Instrument Bus 1A-1IP-01EA.

b. Local Instrument Panel 1H22-P027 RPV Level and Pressure Instrument Panel 1B; ESS Division 2 - RPS B1. The results of observation are as follows.

(1) Cable RR132, associated Division 2 Cable (SC 12C) is connected to ESS Division 1 RPV level and pressure instruments identified as 1B21-N036C and 1B21-N045C. These instruments are shown on S&L Schematic Diagram E1010 Page RR02 as the inputs to the Anticipated Transient Without Scram (ATWS) logic to trip the 6.9KV breakers feeding the Reactor Recirculation Pumps (RR) 1A and 1B.

The inspectors informed the licensee that an inadequate design review was performed and an independent verification of the drawings was not performed by Sargent and Lundy (S&L) to preclude connecting a cable designated as associated Division 2 to an ESS Division 1 instrument. Furthermore, the ATWAS initiation to trip RR pumps 1A and 1B may be compromised.

The inspectors informed the licensee that this item would be unresolved pending further NRC review. (358/83-28-01)

c. Local Instrument Panel - 1H22 P026 - RPV Level and Pressure Instrument Panel 1B ESS 1; RPS B2.

(1) B21-N045B has a blue nameplate designated RPV pressure instrument. The field routed cable RR131 connecting this instrument to process instrumentation panel 1H13-P613 is designated as Associated ESS Division 2 cable, with segregation code 12C, however, the S&L instrument index table revision dated June 10, 1983 indicates this instrument belongs to ESS Division 1.

(2) The factory installed sealtight conduit connecting this instrument B21-N045B to the junction box has no separation from the factory installed sealtight conduit from reactor pressure relief instrument switch B21-N039C designated as ESS Division 1.

Licensee stated that these conduits were installed by the vendor (General Electric) and therefore the ESS Division 1 and 2 separation criteria established in S&L drawing E-280 does not apply. The NRC inspector informed him that the FSAR does not distinguish between the vendor and field installed cable and that this should have been identified initially during receipt inspection and during further reinspections. The inspectors informed the licensee that adequate separation acceptance criteria have not been established for purchased electrical panels. The inspectors informed the licensee that this item would be unresolved pending further NRC review. (358/83-28-02)

(3) A field installed conduit, connects ESS Division 1 junction box to ESS Division 2 junction box.

(4) An ESS Division 2 Cable RR133 identified with a blue tag is routed to feedwater panel 1H13-P612, enters the ESS Division 2 junction box and passes through the conduit to the ESS Division 1 junction box. Nonconformance Report C-QAD-83-2764-E dated August 3, 1983 identified that the separation requirements were not met between ESS Division 2 cable RR133 (12C) and several ESS Division 1 cables (1YK and 1YC). This NCR was disposition as "Use-as-is" sheet QCPT-6-5 (PNL-H226). The inspectors plan to review this disposition further. Items (3) and (4) above are considered unresolved. (358/83-28-03)

d. Reactor Control Panel 1H13-P603.

(1) Several nonsafety related cables have less than 6" of separation from several RPS cables (identified with orange tags).

This condition is documented in interaction sheet P603-54 dated July 29, 1983 and has not been dispositioned.

(2) Several nonsafety related cables have less than 6" of separation from ESS Division 2 (1BK) cables.

This condition is documented in interaction sheet P603-63 dated July 29, 1983 and has not been dispositioned.

e. Reactor Protection System Panel - Trip System "A" 1H13-P609

The inspectors observed Associated Division 1 cable RD269 (11C) bundled with two ESS Division 2 (1BC) cables 1RP152 and 1RP460. Interaction sheet No. P609-11 dated April 21, 1983 identifies the above conditions. The synopsis of the analysis is that the bundling of ESS Division 2 cables, Associated Division 1 cables and nonsafety related cables will not affect the redundant divisions. The close proximity of Associated Division 1 and ESS Division 2 cables was analyzed in analysis sheet QCPT-6-E and was determined to be acceptable. An NR documents that the cable itself is tagged as RD269 instead of RP269.

The analysis provided in QCPT-6-E was examined and the inspectors informed the licensee that this item would be unresolved pending further NRC review (358/83-28-04).

f. Reactor Vessel Level and Pressure Instrument Panel C 1H22-P005

There is no separation between the conduit connecting RPS Segregation Code A2C instrument 1C71-N002C to the local junction box and the conduit connecting ESS Division 3 (green) instrument B21-N047B and the local junction box. S&L drawing Raceway Segregation Chart drawing E-280 Revision F dated November 28, 1983 does not provide the separation criteria. The inspectors informed the licensee that

separation criteria has not been established between ESS Division 3 and RPS channels A1 and B1 which are associated with ESS Division 1, and also between ESS Division 3 and RPS channels A2 and B2, which are associated with ESS Division 2.

The inspectors informed the licensee that this item would be unresolved pending further NRC review. (358/83-28-05)

g. Motor Control Center RX MCC 1F

The inspectors observed a cable identified with a green Associated Division 3 tag above section 9 of RX MCC 1F. The cable was labeled as HP011 (13P) and enters the yellow ESS Division 1 tray section 1219F, located directly above the MCC. The licensee informed the inspectors that an NR was written documenting this violation of separation criteria as identified in S&L drawing E-280.

As per NR, corrective action taken is to be addressed in CG&E Corrective Action Report (CAR) No. 83-01.

Pending review of CAR 83-01, the matter is considered unresolved. (358/83-28-06)

6. Unresolved Items

Unresolved items are items which require additional information to determine whether they are acceptable or items of noncompliance and are identified in Paragraphs 5.b., 5.c.(2), 5.c.(3) and (4), 5.e., 5.f., and 5.g.

7. Exit Interview

The inspectors met with the licensee representatives (denoted under Persons Contacted) on December 30, 1983 at the site. The inspectors summarized the scope and findings of the inspection. The licensee acknowledged the findings of the inspection.