

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

REGION III

Report No. 50-329/77-06, 50-330/77-09

Docket No. 50-329, 50-330 License No. CPPR-81, CPPR-82

Licensee: Consumers Power Company
1945 West Parnall Road
Jackson, MI 49201

Facility Name: Midland Nuclear Power Plant, Units 1 and 2

Inspection at: Midland Site, Midland, MI

Inspection Conducted: June 21 and 22, 1977

Inspectors: *F. J. Jablonski*
F. J. Jablonski

7-6-77

(date signed)

E. R. Schweibinz
E. R. Schweibinz

7-6-77

(date signed)

R. F. Heishman
Approved by: R. F. Heishman, Chief
Reactor Construction and
Engineering Support Branch

7/7/77

(date signed)

Inspection Summary

Inspection on June 21 and 22, 1977, (Report No. 50-329/77-06, 50-330/77-09)
Areas Inspected: Presented a review of past electrical and instrumentation construction problems; reviewed electrical installation procedures; reviewed QA/QC matters relative to electrical and instrumentation installations; observed installations of electrical raceway supports and switchgear. The inspection involved 24 inspector-hours onsite by two NRC inspectors.
Results: No items of noncompliance or deviations were disclosed.

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DETAILS

Persons Contacted

Principal Licensee Employees

- *J. L. Corley, QA Superintendent
- *G. W. Somsel, Construction Supervisor
- G. S. Keeley, Project Manager
- *W. H. Benkert, QA-Project Engineering and Construction

Other Personnel

- *J. P. Connolly, Project Field QC Engineer, Bechtel Power Corporation
- *G. L. Richardson, Lead QA Engineer, Bechtel Power Corporation
- *R. C. Hollar, Electrical QA Engineer, Bechtel Power Corporation

The inspectors also contacted other personnel during the inspection including engineers, QC inspectors, electrical craft foreman and installers.

*denotes those attending the exit interview

Functional or Program Areas Inspected

1. Training Meeting

A meeting was held by RIII inspectors with members of Consumers Power Company's Quality Assurance and Engineering personnel, Bechtel Power Corporation construction management, and electrical QA/QC personnel. The purpose of the meeting was to discuss specific past electrical and instrument construction problems identified by RIII inspectors, and place into perspective the key role which inspectors and installers must play. Through these discussions, both public and plant safety may be enhanced and future undue licensing delays avoided. The agenda included:

- a. A brief description of the NRC and Office of Inspection and Enforcement (IE) inspection organization and function.
- b. A "Chain of Events" i.e., how the safety analysis report should be reflected in specifications, purchase orders and procedures.
- c. Commitments, i.e., Institute of Electrical and Electronic Engineers (IEEE) Standards, and Safety Analysis Report (SAR).

- d. Specific electrical and instrument construction problems previously identified by the inspectors at other construction sites.
 - e. Points specifically stressed included audits, procedures, training, document control, and nonconformances.
2. Review of QA Manual and Implementing Procedures (Electrical)
- a. Electrical installation and related QA/QC activities were being performed by Bechtel Power Corporation personnel in accordance with Bechtel's Quality Control Notices Manual. QA elements such as audits, control of material, control of special processes, corrective action, document control, control of test equipment and records had been reviewed and verified to be acceptable by other RIII inspectors during previous inspections in other areas.
 - b. One lead and three electrical inspectors report to the Project Field QC Engineer who was determined to be free from cost or scheduling responsibilities.
 - c. The qualification record of one QC inspector was reviewed. Requirements of Bechtel's certification program were met. Other training records indicated that engineering, QC, and craft personnel had received indoctrination and training commensurate with on going activities, e.g., installation of cable tray supports.
 - d. Stop work authority is vested in the Bechtel Project Field QC Engineer.
 - e. Procedures relative to receipt inspection, handling, storage, and identification were included as part of Bechtel Power Corporation's approved program which had been reviewed and verified to be acceptable by other RIII inspectors. Procedures for the installation and inspection of cable tray and their seismic supports had been prepared and appropriately approved, however, horizontal and vertical separation requirements of the Safety Analysis Report (SAR), Amendment No. 32, had not yet been incorporated. Only minimal cable tray installations had taken place. Conduit installation and inspection procedures had not yet been developed; no installations had been made.

The RIII inspectors determined that procedures were available and commensurate with work activities.

No items of noncompliance or deviations were identified.

3. Observations of Work and Activities

The RIII inspectors observed work in progress at various elevations of the auxiliary building. The following was determined:

- a. Activities such as welding of cable tray supports and installation of cable trays were on going. Weldors identified as No. E-19 and E-21 had been qualified to Bechtel Standard WQ-2, Procedure No. Pl-A-LH Strut. Weld Rod, type 7018 was being controlled in accordance with Weld Filler Material Control -1, Table No. 3. Welder identifications were stamped adjacent to the weldments. Welds had been inspected and touched up with a galvanized coating.
- b. Drawings and other design documents were available to the installers at the work locations.

The eleven drawings chosen by the RIII inspector for review were of the current revision. Personnel using the drawings were cognizant of technical and quality aspects.

- c. Mechanical pipe and cable tray clearances appear to be potential problems. No definitive spacing requirements had been incorporated into installation or inspection procedures, however, considerations such as pipe growth and seismic movement were being evaluated by the licensee. This matter will be reviewed during a subsequent inspection.
- d. 4.16 kV switchgear was stored in place in areas separated by concrete walls and remote from work areas, i.e., blocked off from normal construction activities, and protected with flame retardant, nonimpervious coverings. Identification tags were not color coded, i.e., down to the channel level, however, requirements to do so were not evident. The matter of color coding will be reviewed during a subsequent inspection.

No items of noncompliance or deviations were identified.

Exit Interview

The inspectors met with site staff representatives (denoted under persons contacted) at the conclusion of the inspection on June 22, 1977. The inspectors summarized the purpose and findings of the inspection. The licensee acknowledged the findings as reported.