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

REGION III

Report No. 50-329/77-10; 50-330/77-13

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: September 27-29, 1977

Inspectors: T. E. Vandel — 10-12-77

R. J. Cook — 10/12/77

Approved by: D. W. Hayes, Chief — 10/12/77
Projects Section

Inspection Summary

Inspection on September 27-29, 1977 (Report No. 50-329/77-10; 50-330/77-13)
Areas Inspected: Review of reactor pressure vessel receipt inspection records and other related quality records, observed overview inspection of Unit 2 containment dome readiness for final concrete placement, performed followup review of licensee activities concerning previously identified noncompliance, and unresolved matters. The inspection involved 38 inspector-hours onsite by two NRC inspectors.
Results: No items of noncompliance or deviations were disclosed.

DETAILS

Persons Contacted

Principal Licensee Employees

*W. R. Bird, Section Head, Quality Engineering
T. C. Cooke, Project Superintendent
*J. L. Corley, Project Quality Assurance Superintendent
D. E. Horner, Field Quality Assurance Engineer
D. R. Keating, Field Quality Assurance Engineer
B. W. Marguglio, Manager, Quality Assurance
*B. H. Peck, Construction Supervisor
*R. G. Southon, Quality Engineering, Mech. Group Supervisor
R. E. Whitaker, Field Quality Assurance Engineer

Other Personnel

*W. L. Barclay, Project Field Quality Control Engineer, Bechtel Power Corporation (Bechtel)
*H. D. Foster, Assistant Project Field Quality Control Engineer, Bechtel
*J. M. Klacking, Project Quality Assurance Engineer, Bechtel Associates
*G. L. Richardson, Lead Quality Assurance Engineer, Bechtel
L. S. Stornetta, Assistant Project Field Engineer

Other personnel were contacted during the course of the inspection.

*Management exit meeting attendees.

Licensee Action on Previous Inspection Findings

1. (Closed) Twenty-one commitment items identified in the Consumers Power Company (CPCo) letters dated June 18 and June 24, 1976, in response to noncompliance items identified in Inspection Reports No. 50-329/76-04 and No. 50-330/76-04. This amplifies and completes the NRC review and close out of these items identified in paragraph 12 of Inspection Reports No. 50-329/77-01 and No. 50-330/77-01 as follows:

   Item No. 1: Previously closed.

   Item No. 2: Previously closed.

   Item No. 3: Previously closed.

Item No. 4: Previously closed.

Item No. 5: This item had previously been partially completed in that Bechtel Quality Control procedures and Bechtel Field Engineering procedures had been modified, approved, and issued. In addition, this item was related to Topic No. 18 regarding review of the Bechtel training program and the improvement in training resulting in improved Quality Control inspection adequacy. To the extent that Topic No. 18 is now considered complete this item is likewise complete.

Item No. 6: Previously closed.

Item No. 7: This item, regarding a trend analysis program, had previously been identified as being closed with the completion of Bechtel Procedure QADP C-101 and of Consumers Power Company Procedure MPQAP M-10. It is further noted here that the implementation of both procedures was reviewed during a special Quality Assurance inspection (Reports No. 50-329/77-05 and No. 50-330/77-08) and as a followup item during a routine inspection (Reports No. 50-329/77-08 and No. 50-330/77-11) with the trend analysis program then considered to be acceptable.

Item No. 8: Previously closed.

Item No. 9: Previously closed.

Item No. 10: Previously closed.

Item No. 11: Previously closed.

Item No. 12: Previously closed.

Item No. 13: Previously closed.

Item No. 14: This item, regarding an evaluation of NCR's for Part 50, Section 50.55(e) reportability procedure, has been completed with the issuance of Bechtel Procedure No. QADP C-101. It is noted here that CPC Procedure No. 20-2 as modified is now considered acceptable (completes an open noncompliance item in Reports No. 50-329/77-08 and No. 50-330/77-11 identified later in this report item 4 below).

Item No. 15: Previously closed.

Item No. 16: Previously closed.

Item No. 17: The inspector reviewed the documentation of the completion of this topic, as follows: (1) Bechtel report of rebar reinspections, survey and evaluation of June-August 1976 the conclusion of which states ". . . the structural integrity of all Category I concrete completed to date is maintained and that all code and design criteria requirements are satisfied." During review by CPCo personnel, it was concluded that in the interest of the project other items were identified as needing to be considered (rebar related DEN's for the Auxiliary Building prior to August 1976) (Slager memo HWS85-76), and (2) the report of this additional review was accepted by the CPCo Project Engineer on December 29, 1976. This completes Topic No. 17 activity commitment.

Item No. 18: The inspector reviewed documentation of the completion of this topic as follows: (1) Bechtel report of indepth review of training and qualifications dated July 21, 1976. This report provided adverse comment regarding training for seven distinct project departments and included review of other departments without adverse comment. The resulting corrective action determination was reported to NRC by CPCo in a letter dated February 18, 1977 (Howe-28-77) stating that two additional procedures would be applied to staff groups with completion planned for April 15, 1977. The procedures, FP-IJI-1 and FPG-2.000 have now been implemented. Letter Howe-66-77 to NRC dated April 18, 1977 states that this completes and closes both Topics No. 5 and No. 18.

Item No. 19: This topic's procedure commitments had previously been completed, however, during this inspection, the inspector visited the completed storage area. It was completely fenced for controlled access, in addition it was lighted and graded for good drainage. All material was properly stored on dunnage in controlled bay areas. This completes Topic No. 19.

Item No. 20: Previously closed.

Item No. 21: This item was reviewed and closed during a routine inspection (Reports No. 50-329/77-08 and No. 50-330/77-11).

2. (Closed) Six items representing CPCo commitments documented in NRC immediate action letter to CPCo dated April 29, 1977.

Item No. 1: Notify the NRC Region III office prior to repairs or modifications involving concrete placement in area of omitted tendon sheaths. Completion is documented in Report No. 50-329/77-07.

Item No. 2: Complete investigation and implement corrective action required. Corrective action determined included the following: (1) CPCo review of Bechtel Quality Control Inspection procedures (QCI's) and Bechtel revision of procedures to incorporate comments was completed on August 19, 1977, (2) changes to Bechtel procedures to prescribe survey activity and use of drawings is now complete (four QCI procedures were revised), and (3) training sessions were conducted to reemphasize the QC Engineer responsibilities for inspection and acceptance.

Item No. 3: Expand overview program to include all embedments including rebar placement. The expanded program is in effect and it is understood that CPCo intends to continue the program at same effective level until diminish of safety related pours. The NRC has completed its review of items 2 and 3 and is in concurrence with the intended level of coverage.

Item No. 4: Notify the NRC, starting on May 9, 1977, and for the next for 120 days, of all embedment errors identified after final acceptance by the first level of QC inspections. This item was completed on September 9, 1977, with seven separate instances of errors being reported to NRC from May 19, 1977 through August 17, 1977.

Item No. 5: Review and revise as necessary QC inspection procedures. As stated under Item No. 2 above, this activity was completed on August 19, 1977.

Item No. 6: Training of QC Engineers and Field Engineers regarding design and inspection requirements for embedments. Training sessions as follows were conducted: (1) for Quality Control Engineers on July 8, July 14, August 15, and September 8, 1977, (2) for Field Engineers session BT-135 on April 21, 1977, and (3) for Surveyors (branch of Field Engineering) on April 20, 1977, (regarding revisions to checkout procedure).

3. (Open) Noncompliance Item (Reports No. 50-329/77-05 and No. 50-330/77-08 and later in Reports No. 50-329/77-08 and No. 50-330/77-11): The repair of the hanger bracket in accordance with the disposition provided in NCR-813 was not inspected during this inspection. Review will be conducted during future inspections.

4. (Closed) Noncompliance Item (Report No. 50-330/77-02 and later in Reports No. 50-329/77-08 and No. 50-330/77-11): CPCo Procedure No. 20-2 "Reporting Deficiencies to NRC" Revision 4 was completed on September 13, 1977, modifying paragraph 5.4.2 regarding prompt notification. This item is now complete.

5. (Closed) Unresolved matter (Reports No. 50-329/77-05 and No. 50-330/77-08 and later in Reports No. 50-329/77-08 and No. 50-330/77-11): CPCo NCR items QF-153 through QF-177 written from March 10, 1977 through August 22, 1977, were reviewed for timely response and corrective action. No recurrence of untimely completion of the NCR's was noted. This item is now considered resolved.

6. (Open) Three unresolved matters (Reports No. 50-329/77-05 and No. 50-330/77-08 and later in Reports No. 50-329/77-08 and No. 50-330/77-11): (1) Dome liner Unit 1 coating repair, (2) Consumers Power Company manuals revision, and (3) further review of NATCo audit. These items were not reviewed during the current inspection. Review will be conducted during future inspections.

Functional or Program Areas Inspected

1. Receipt Inspection and Handling

   a. Receipt Inspection records were reviewed for the following items:

      Unit 1

      Reactor Vessel (MRR-AEO-1027)
      Reactor Vessel Accessories (MRR-AEO-1027)
      Reactor Vessel Head (MRR-AEO-998)
      Reactor Vessel Head Accessories (MRR-AEO-703)
      Reactor Vessel Studs (MRR-AEO-1024)

      Unit 2

      Reactor Vessel (MRR-AEO-600)
      Reactor Vessel Internals (MRR-AEO-982)
      Reactor Vessel Head (MRR-AEO-601)

      It appears that these components were received undamaged and in conformance with specifications including special protection requirements.

      The receipt inspection records indicated that the shipping number on the Unit 2 Reactor Vessel was 2RV-T1. Earlier correspondence had indicated that the shipping number would be 2T51. B&W was notified of this discrepancy and later responded with a letter indicating an error in shipping markings.

During the exit interview the licensee agreed it would be prudent to examine additional identifying markings when other components (including the Unit 2 Reactor Vessel) are unpackaged to substantiate the recorded identification and compatibility of fitted components.

b. Handling, and storage activities appear to be in conformance with established procedures.

c. Record keeping requirements appear to be adequate and adhered to by the licensee.

2. Rigging Testing and Vessel Lifting

A review of Reactor Vessel and Steam Generator lifting records revealed that rigging testing and vessel lifting procedures were established prior to placing the Reactor Vessels and Steam Generators in the storage areas. The procedures for movement of the Reactor Vessels and other heavy lift components from storage are not completed at this time.

It was noted during the review of lifting records that procedure QC checklists did not have a provision for ascertaining that lift cables had been prequalified. Use of prequalified lifting components is required by procedure. Certification of the lifting cable was not available at the site during the inspection. However, subsequent to the inspection, cable prequalification documentation was reviewed and indicated that the lifting cables used were qualified.

During the exit interview the licensee agreed to incorporate provisions on the QC checklists to verify that prequalified cables are being used and that crane and rigging braking and holding capabilities have been verified (whenever applicable) prior to subsequent lifting of the Reactor Vessels and other heavy lift components.

3. Examination of Unit 2 Dome Concrete Preplacement Activities

Concrete placement preparations for the Unit 2 containment dome area were inspected. Cleanup of the dome area was in progress. Selected portions of the following areas were examined.

a. Rebar appeared to be properly placed and tightly secured and tied. Some minor rebar adjustments were required after cleanup and prior to concrete placement to rigorously adhere to print specifications.

b. Embedments appear to be properly placed.

c. Tendon sheaths appeared to be properly placed and true. Tendon grease fittings were found capped.

d. Piping material for concrete placement was acceptable.

e. Preplacement and licensee overview inspections were completed prior to concrete placement.

Exit Interview

The inspectors met with licensee representatives (denoted under Persons Contacted) at the conclusion of the inspection on September 29, 1977. The inspectors summarized the scope and findings of the inspection. Licensee comments are noted in the applicable sections of the report.