

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

REGION III

Report No. 50-329/77-08; 50-330/77-11

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: August 1-5 and 8-9, 1977

Inspector: *T. E. Vandell*
T. E. Vandell

Approved By: *D. W. Hayes*
D. W. Hayes, Chief
Projects Section

Aug 24, 1977

8/24/77

Inspection Summary

Inspection on August 1-5 and 8-9, 1977 (Report No. 50-329/77-08 and 50-330/77-11)

Areas Inspected: Reviewed records and observed Unit 2 containment liner repair work of the bulge area; reviewed corrective action records relative to tendon sheaths placement errors in Unit 1 containment wall; examined licensee activities concerning previously identified noncompliance and unresolved matters. The inspection involved 53 inspector-hours onsite by one NRC inspector.

Results: No items of noncompliance or deviations were disclosed.

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DETAILS

Persons Contacted

Principal Licensee Employees

T. C. Cooke, Project Superintendent
*J. L. Corley, Project Quality Superintendent
D. E. Horner, Field Quality Assurance Engineer
*D. R. Keating, Field Quality Assurance Engineer
B. W. Marguglio, Manager Quality Assurance
R. E. Whitaker, Field Quality Assurance Engineer

Other Personnel

*W. L. Barclay, Project Field Quality Control Engineer,
Bechtel Power Corporation (Bechtel)
A. J. Boos, Project Field Engineer, Bechtel
J. P. Connolly, Departing Project Field Quality Control Engineer, Bechtel
Judy Davis, Assistant to Lead Document Control Supervisor, Bechtel
*H. D. Foster, Assistant Project Field Quality Control Engineer,
Bechtel
J. G. Hook, Quality Assurance Engineer, Civil, Bechtel
D. R. Johnson, Chief Field Quality Control Engineer, San Francisco office
Bechtel
S. Kirker, Quality Control Engineer Civil, Bechtel
T. Lieb, Quality Control Engineer Batch Plant, Bechtel
J. Manno, Welding Engineer, Bechtel
L. Morris, Field Engineer, Containment, Bechtel
*G. L. Richardson Lead Quality Assurance Engineer, Bechtel
J. Savoie, Quality Control Engineer, Welding, Bechtel
G. Smith, Welding Engineer, Bechtel
*L. S. Stornetta, Assistant Project Field Engineer, Bechtel
S. Suggs, Construction Supervisor, Structural, Bechtel
T. Thiruvengadam, Resident Engineer, Bechtel Associates
R. J. Will, Field Engineer, Bechtel
R. Yanekawa, Quality Control Engineer Welding, Bechtel

*Management exit meeting attendees

Licensee Action on Previous Inspection Findings

(Open) Noncompliance Item (Report No. 50-329/77-05 and 50-330/77-08): Pipe support hanger bracket mounting clearance failed to meet specification requirements. The inspector conducted a review of Revision 1 of specification 7720-M-3260, which was revised to include specification change notice, SCN3, dated June 1, 1977 among others. This change was made to clarify the design and acceptance criteria provided. Also revised was the applicable quality control instruction (QCI, P-2.10). Reinspection of the installed hangers, to the revised QCI resulted in issuance of two NCR's; (1) NCR 813 which included hanger 18-1HCB-2-H9 as being nonconforming and (2) NCR 823 issued covering three different hangers installations. Disposition has been provided for NCR 813 requiring rework to meet specification requirements. The inspector stated that review will be conducted of this hanger during future inspections to observe the completed installation.

(Closed) Noncompliance Item (Report No. 50-329/77-05 and 50-330/77-08): Drawing changes in the field, contrary to established procedures. The Bechtel memo of May 26, 1977, is still in effect pending implementation of new procedural instructions. The following listed Field Instruction - Piping (FIP) procedures have been newly developed, approved and issued relative to field modifications of piping hanger drawings. (Approved and Issued August 7, 1977).

FIP-1.112, Field Markup Work Prints for Material Supports
FIP-1.113, Field Drawing Revisions-Erection Changes for Material Supports

This completes the resolution of corrective action to prevent unauthorized changes to drawings in the field.

(Closed) Noncompliance Item (Report No. 50-329/77-05 and 50-330/77-08): Failure to complete and issue reports of audits on a timely basis. Four audits identified as follows: Aggregate Testing Audit, Report 76-52; Soil Testing Audit, Report 76-58; Testing of Concrete, Report 77-01; and Concrete Placement Records, Report 77-04; were all issued on May 27, 1977. Two quality findings were also issued in connection with these audits; QF-155 was issued at the time of the audit and was closed out on April 28, 1977, and QF-166 which was not issued until the report was issued. QF-166 is presently open pending Bechtel Project Engineers response expected about mid-August 1977. Other corrective action indicated in the licensee response letter was the staffing of additional QA personnel at the site. The QA Manager informed the inspector that the following staffing at the site is expected to be completed in August 1977. The Quality Engineering section staff will total eight Engineers with the addition of six Engineers, while the Inspection, Examination and

Test Verification section will total 12 Engineers with the addition of seven Engineers. It was further indicated that an Audit Administration Section staff, located at the Corporate office, will have a total of five Engineers by the end of August 1977. It was emphasized that these additions will relieve the short staffing condition that caused the identified noncompliance. The inspector indicated that he had no further questions regarding this concern.

(Closed) Noncompliance Item (Report No. 50-329/77-05 and 50-330/77-08): Trend Analysis procedure was not being implemented. The following items of corrective action were reviewed by the inspector:

1. The deficiency log (listing each QF issued) is current with the last entry QF-175 issued July 25, 1977. Presently each deficiency is entered as it is issued.
2. The deficiency classification log is also current with each deficiency issued being classified into predetermined distinct classifications (a total of 78 classifications). When three or more audit findings occur for a single classification within a year a trend analysis is identified and a report is issued, i.e., TAR-18.
3. With the classification logs completion, a total of 19 TAR's were issued, and of that total, all but six TAR's have been acted on and closed. Six TAR's were issued and closed in June, and an additional seven have been closed as of August 3, 1977.

The inspector was informed that with the additional manpower (identified in the previous noncompliance item) located at the site, the trend analysis activity should remain in a current condition. The inspector indicated that he had no further questions regarding this item.

(Closed) Noncompliance Item (Report No. 50-329/77-05 and 50-330/77-08): As indicated in the letter of response, the defective ice batching scale was tagged immediately after it had been recognized that the tagging procedure had not been followed and was removed from the site. The inspector learned that additional corrective action included directive letters issued by Consumers Power and by Bechtel to applicable contractors and subcontractors. The letters emphasized the need for adherence to approved procedures and programs. This item is considered to be resolved.

(Closed) Unresolved Matter (Report No. 50-329/77-05 and 50-330/77-08): Illegible pipe support drawings. The inspector was informed that a new xerox machine has been installed onsite and is now in use. In addition, as of August 1, 1977, first generation prints are being supplied to the field for duplicating instead of brown line sepias. The inspector also was informed that prints of submittals produced with

the new machine and with original drawings are being routinely issued. Also that previously issued prints are being replaced on a request for a better print basis only. This matter is considered to be resolved.

(Closed) Unresolved Matter (Report No. 50-329/77-05 and 50-330/77-08): Field Instructions and Field Procedures review by Project Engineering. In discussions with the licensee representatives, the inspector learned that currently established Bechtel procedures assure that not only the field instructions and procedures but also the Engineering Department procedures are compatible with and responsive to the Quality Assurance Program. Therefore, review of such field instructions and procedures by Project Engineering is considered unnecessary. The Bechtel governing documents include: (1) Field Instruction General Procedure FIG-1,000, and (2) Nuclear Quality Assurance Manual in Section IV-1. The inspector indicated that he had no further questions regarding this matter.

(Open) Noncompliance Item (Report No. 50-330/77-02): Failure to report a 10 CFR Part 540, 50.55(e) item within the prescribed prompt reporting time (i.e., 24 hours). Corrective action provided in the licensee letter of response dated April 5, 1977, include provision of a Consumers Power Company Quality Assurance Program Procedure No. 20-2 "Reporting Deficiencies to NRC". In discussions with licensee personnel, it was agreed that further modification of paragraph 5.4.2, regarding prompt notification appeared appropriate. Further review will be conducted at a later date.

(Open) Four additional unresolved matters remain for further review during future inspections (Report No. 50-329/77-05 and 50-330/77-08): (1) Dome liner Unit 1 coating repair, (2) Consumers Power Manuals revisions, (3) Further review of NATCO audit, and (4) Timely resolution and closing of NCR's.

Functional or Program Areas Identified

1. Unit 1 Tendon Sheath

The present status of corrective action regarding the Unit 1 Tendon Sheath placement errors was reviewed by the inspector. An interim report, dated June 20, 1977, providing the design disposition for installing the two omitted tendon sheaths numbers H12-037 and H13-037, was reviewed by the inspector prior to the onsite inspection. The records of the tendon sheath installation were reviewed by the inspector on site. The results of the record review are as follows:

- a. Bechtel NCR 778 issued on April 19, 1977, described the errors and requested project engineering to provide design disposition for correction. This NCR has now been closed with completion, and reinspection signed off on July 22, 1977.
- b. Vendor drawings by Inland Ryerson had been revised to show the rerouting of the two identified tendon sheaths and also to show an altered routing of tendon sheath H13-038. Drawings No. 7220-C2-348 and 7220-C2-357 were revised and subsequently utilized in the sheath installation.
- c. Special welding procedures were developed and qualified for use to weld rebar as follows: (1) P1-Rebar, Revision 0, June 29, 1977, with qualification PQR No. 617, June 29, 1977, for rebar to rebar welding, and (2) P1-structural to Rebar, Revision 0, June 29, 1977, with qualification PQR No. 618, June 29, 1977, for structural steel plate to rebar welding.
- d. A survey was run establishing the correct elevations of the sheaths as prescribed on the drawings which was signed off by the surveyer and by the QC Engineer.
- e. QC inspections were performed of the tendon sheath installation with drawings and QCI records being marked and completed to establish as built conditions and acceptance of the repair and subsequent concrete pour.

No problem areas were identified as a result of this review. The inspector was informed that the final 50.55(e) report is scheduled to be issued by August 15, 1977.

2. Unit 2 Containment Liner Repair

Bechtel NCR 717 issued February 28, 1977, requested Project Engineering to provide disposition for the damage material removal, damage assessment, and eventual corrective repair. A project Engineering letter was issued on July 11, 1977, prescribing the actual repairs to be made. The containment liner bulge deficiency repair was started on August 1, 1977.

The Project Engineering directive issued drawings 7220-C1101, -C1102, and -C1103 all Revision 0, to be followed for the replacement liner plate installation work. In addition Attachment 1 to the letter is a procedure for mixing, delivering, placing, finishing, curing, sampling, and testing of the grout to be used between the liner plate and containment line plate building concrete.

The inspector observed the fit up and welding of the 1st four foot lift of replacement liner plate installed at elevation 593' between column line azimuths 250⁰ and 270⁰. Weld procedures used, welder qualifications, NDE procedures used, and NDE inspector qualification were reviewed and determined to be consistent with requirements. The inspector observed NDE examination of welds including liquid penetrant, magnetic particle, and vacuum box leak test. No deficiencies were identified.

A weld crack was detected near the azimuth 250⁰ column line when the area behind the liner plate was filled with water (to soak the plate and concrete subsequent to start of grouting operations). Investigation of the crack revealed that the weld of the backing strip to the support column had separated during weld out operations and the crack had propagated through to the liner plate surface. Corrective action included examining the 270⁰ azimuth column line weld (no defect found) and applying a modified weld out technique for the backing strip welds. Repair was completed, examined, and accepted without further problems.

The grouting operation utilized the established grouting procedure (Attachment 1 to Project Engineering directive letter dated July 11, 1977). The inspector observed weighing, batching, sampling, and placement of grout, for the 1st four foot lift of liner plate. No problems were identified. The inspector also reviewed records of qualification tests of ingredients and observed current calibration stickers on the scales used. A total of 20.324 cu Ft of grout was placed. One mix of grout was rejected as being out of temperature tolerance.

The inspector considered the 1st four foot lift of containment liner repair to have been satisfactorily placed with no problem areas being identified.

3. Review of Training for Resident Engineers

The inspector performed a review of Engineering Training for the assigned resident engineers to determine responsiveness to commitment No. 21 of licensee response letter dated June 18, 1976. Bechtel Engineering Department Procedures MED 5.34, EDP-5.34, Revision 1, and EDPI 5.34.1, Revision 0 were reviewed and it was learned that these procedures have been accepted by the licensee with procedure EDPI5.34.1 having been accepted by letter, dated September 10, 1976. Additionally EDP 2.14 "Duties of assigned Resident Inspector" was also reviewed. The inspector considered the above listed procedures to be responsive to commitment 21 for Resident Engineers. The training records are being maintained at the Project Engineering office in Ann Arbor, Michigan and thus were not available for review

during the inspection, however, a phone check on one Resident Engineers record file in Ann Arbor received a response that the required records were on file. The inspector indicated that he had no further questions.

Exit Interview

The inspector meet with the licensee and contractor representatives (denoted with an asterisk under Persons Contacted) at the conclusion of the inspection on August 9, 1977. The inspector discussed the results of the inspection and indicated that no noncompliance or unresolved matter had been identified during the inspection however, several previously identified unresolved matters will continue to be carried in an open status for further review during later inspections.