

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

REGION III

Report No. 50-329/79-26; 50-330/79-26

Docket No. 50-329; 50-330

License No. CFP-81; CPP-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 5-September 28, 1979

Inspector: R. J. Cook *RC Knop for*

12/6/79

Approved By: R. C. Knop, Chief *RC Knop*  
Projects Section 1

12/6/79

Inspection Summary

Inspection on August 5-September 28, 1979 (Report No. 50-329/79-26; 50-330/79-26)

Areas Inspected: Examination of site conditions, settlement of diesel generator foundations and structures, inadequacies of Hilti drop-in anchor bolts, qualification of oil coolers installed in the auxiliary feed water pumps, post weld heat treatment of Unit 2 reactor coolant system piping, assembly of reactor coolant pump 2 P51A, missing threads in casing bolt hole of reactor coolant pump 2 P51C, fit of casing studs for reactor coolant pump 2 P51A, fit of alignment keys for reactor coolant pump 2 P51A, metal filings in decay heat removal pump 2 P-60B, potential overfill of cable raceways in the spreading rooms, allegations pertinent to silver brazing by a nonqualified person, fit up of spool 2 HCB-77-159A, welding of safety related small bore piping and safety related cable raceway hangers. This inspection effort involved a total of 118 inspection hours by one NRC inspector.

Results: One item of noncompliance (infraction, failure to identify shipment of nonconforming oil coolers for the auxiliary feed water pumps) was identified in one area of the fifteen areas reviewed.

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## DETAILS

### Persons Contacted

#### Consumers Power Company Personnel

D. Miller, Site Manager  
T. Cooke, Project Superintendent  
\*J. Corley, QA Section Head IE & TV  
\*B. Peck, Construction Supervisor  
D. Keating, QA Group Supervisor  
P. Kyner, Electrical QA Supervisor  
L. Howell, Quality Assurance

#### Bechtel Power Corporation Personnel

\*L. Dreisbach, Project QA Engineer  
\*D. Hollar, Quality Control Engineer

#### R&W Personnel

\*R. Shope, Project Engineer  
\*W. Willman, Quality Control Engineer

Numerous other principal staff and personnel were contacted during the reporting period.

\*Denotes those present during at least one of the two exit interviews conducted during the report period.

### Licensee Action on Previous Inspection Findings

Reportable Deficiencies - 50.55(e) Items:

#### Settlement of Diesel Generator Foundations and Structures

(Open) Item No. (329/78-13-03; 330/78-13-03): During the report period the licensee has kept the Resident Inspector informed of activities being performed pertinent to the settlement of the diesel generator building and site settlement monitoring program. During the reporting period the sand preloading of the diesel generator building has been removed.

#### Inadequacies in drop-in anchors

During the report period the Resident Inspector was informed that the licensee had determined that approximately 20% of tested Hilti drop-in anchors failed the quality control pull test acceptance criteria. The predominant mode of failure was the anchor moved when load test was applied. The licensee had tested 64 anchors of varying size at the time of notification.

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(Closed) Unresolved Matter (329/79-15-01; 330/79-15-01): The unresolved matter is escalated to a no response item of noncompliance as follows:

As discussed in NRC Inspection Report Nos. 50-329/79-16; 50-330/79-16 and 50-329/79-15; 50-330/79-15 the auxiliary feed water pumps were shipped to the site and installed with oil coolers which did not appear to be qualified to ASME Section III criteria. Further review into this matter has revealed that the coolers shipped with the auxiliary feed water pumps were nonconforming. It was also revealed that the cognizant field engineer was knowledgeable that the coolers being shipped were nonconforming. Engineering Department Procedure No. 4.63 states in part, "The Supplier shall be required to submit deviation requests to the Bechtel Project Engineer with a copy to the Bechtel Shop Inspector within five working days after detection." Therefore it was the responsibility of the cognizant engineer to procure a Supplier Deviation Disposition Request (SDDR) from the vendor of the pumps. This action would have supplied the necessary "visibility" that the coolers being shipped with the pumps were nonconforming. Failure of the cognizant engineer to adhere to Bechtel Power Corporation Engineering Department Procedure No. 4.63 is considered an item of noncompliance with 10 CFR 50, Appendix B, Criteria V.

In addition to issuing Nonconformance Report No. 2236 which addresses the nonconforming coolers for the auxiliary feed water pumps, two Quality Action Requests (QAR) were generated. One QAR No. SD-231 requested that Bechtel Project Engineering require the vendor to comply with the specifications and supply a Supplied Deviation Disposition Request. In reply to QAR No. SD-231 Project Engineering stated that the cognizant engineer has been reinstructed to follow the requirements of Engineering Department Procedure EDP 4.63 in requesting SDDR for the Supplier Deviations to the Procurement Documents. A SDDR has been generated by the vendor to identify that the auxiliary feed water pumps were shipped with nonconforming coolers which are to be replaced with ASME Class No. 3 qualified coolers. The other QAR No. SD-232 requested that the requirements of the Bechtel Procurement Supplier Quality Manual Section 1.2 be adhered to by Bechtel Procurement. The Bechtel Procurement Supplier Quality Manual requires that nonconforming items be documented on Quality Surveillance Deficiency Report PSQ-222 and also documented on a Quality Surveillance Report PSQ-221A by the Bechtel Supplier Quality Representative. These documents have been submitted and made available for review during the reporting period.

Because of the actions taken by the licensee pertinent to this item and referenced above no response is required for this item of noncompliance.

#### Functional or Program Areas Inspected

##### 1. Site Tours

At periodic intervals during the report period, tours of essentially every area of the site were performed. These tours were intended to assess the cleanliness of the site, storage conditions of equipment

and piping being used in site construction; the potential for fire or other hazards which might have a deleterious affect on personnel and equipment and to witness construction activities in progress.

2. Post Weld Heat Treatment (PWHT) Of Unit 2 Reactor Coolant System

During the report period B&W has had difficulty in maintaining PWHT temperatures between the prescribed procedural limits of 1100-1150°F. The basic B&W procedure used for PWHT is 9-HT-102, Post Weld Heat Treatment Procedure for Reactor Coolant Piping. Because of the difficulties encountered in controlling PWHT temperature within the narrow range of the procedure, B&W self-imposed a stop work on PWHT operations. The PWHT was suspended until the temperature limits of the procedure were relaxed to the limits of the ASME code which is 1100-1200°F. More stringent control was also placed on the location of the heaters. The weld material and weld procedure is being requalified to the higher PWHT temperatures. PWHT operations were resumed during the report period.

3. Assembly of Unit 2 Reactor Coolant Pumps

During the reporting period assembly of Unit 2 reactor coolant pumps was in progress. An attempt at lowering the impellor assembly of pump designated 2 P51A was witnessed by the Resident Inspector. Acceptable clean room conditions were being maintained. Pump vendor representatives are on site to advise in the assembly of the reactor coolant pumps.

During the reporting period the Resident Inspector examined a casing bolt hole on reactor coolant pump 2 P51C which has missing threads due to an out-of-round hole. Approximately 180° is affected due to the tapering of threads into the area of nonexistent thread. The thread is a 4 1/4 in. No. 2 fit. The nonconforming casing thread is addressed in NCR No. 1630. During an exit interview, the Resident Inspector indicated that it was imperative that the reactor coolant boundary be able to be maintained during all operations for the plant life. The reactor coolant pump casing bolts mechanically fastened a sealing surface. More review of this matter will be performed at a later time.

During the reporting period the Resident Inspector examined the fit of reactor coolant pump casing studs for coolant pump 2 P51A. These studs have varying degrees of tightness. However, an analysis performed by B&W and transmitted to the site indicate that with a 4 1/4 in. diameter stud with a Class No. 2 fit thread, horizontal motion at the top of an installed stud could be 1/8 in. The maximum measured motion is nominally 3/32 in.

During the assembly of reactor coolant pump 2 P51A it was found that the alignment keys for the motor stand were out of alignment by nominally 1/16 in. and would require field fitting. This item is addressed in NCR 1650. During an exit interview the Resident Inspector expressed

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caution in being able to maintain confirmed vertical alignment between pump and driver assemblies. Additional review of this matter will be performed at a later time.

4. Metal Filings in Decay Heat Removal Pump

As a result of drilling a 1 inch diameter vent hole in the pump discharge piping for decay heat removal pump 2 P60B metal filings dropped into the pump casing. The Resident Inspector witnessed a portion of the licensee's attempts to remove the filings by using a vacuum cleaner with adhesive at the end of the probe. Metal filings fell through a lower casing during this operation. This item is addressed in NCR No. M-03-3-9-082. Disposition of this nonconformance report will be reviewed at a later time. During an exit interview the Resident Inspector indicated that the internal cleanliness of the decay heat removal pump would ultimately need to reflect a condition which would not have a deleterious effects on the rotating members end seals.

5. Potential Overfill of Spreading Room Raceways

During the reporting period the Resident Inspector was informed that the computer code used for routing cables had yielded results which indicated that some of the raceways in the spreading rooms may become overloaded with the existing cable installation plan. The licensee stated that an engineering evaluation was being performed to assess the impact on the site and the extent of potential raceway modifications.

6. Allegations of Improper Brazing

During the reporting period the Resident Inspector received anonymous allegations pertinent to silver brazing of piping located and buried at the south end of the combination shop. The allegations stated that a nonqualified person had performed silver brazing on this piping while another person was becoming qualified and certified in this technique. After the individual became qualified he was asked to sign for the joints made by the nonqualified man. The qualified individual refused to sign for those joints made by the nonqualified person until he (the qualified individual) had an opportunity to remake the joints-which he did. The Resident Inspector was able to substantiate these allegations. However, it was determined during the investigation into this matter that the system involved was a nonsafety related system (non-Q). The system involved was for instrument air from the source evaporator building (Drawing No. SP-561-SH1).

During an exit interview the Resident Inspector informed the licensee of the nature of the allegations; that it appeared that the allegations were substantiated; and that this type of performance would not be tolerated by the NRC where safety related systems were involved.

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7. Additional Work Activities Observed

During the reporting period the Resident Inspector witnessed fit up and final inspection for pipe spool designated 2 HCB-77-159A. Welding of safety related small bore piping and welding on safety related cable raceway hangers was witnessed in the Auxiliary Building 634 ft. elevation.

No items of noncompliance were identified.

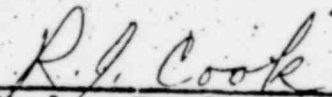
Exit Interviews

The Resident Inspector attended the Exit Interviews conducted by K. Naidu and K. Ward, Region III Reactor Inspectors on August 23 and September 27, 1979 respectively.

The Resident Inspector met with licensee representatives (denoted under Persons Contacted) on August 27 and August 31, 1979. The Inspector summarized the scope and findings of the inspection effort to date. The licensee acknowledged the findings reported herein.

Attachment: Preliminary  
Inspection Findings

# PRELIMINARY INSPECTION FINDINGS

<b>1. LICENSEE</b>  Consumers Power Company 1945 West Parnall Road Jackson, MI 49201 Midland Unit 1 (Midland, MI) Midland Unit 2 (Midland, MI)		<b>2. REGIONAL OFFICE</b>  U.S. Nuclear Regulatory Commission Office of Inspection & Enforcement, RIII 799 Roosevelt Road Glen Ellyn, IL 60137	
<b>3. DOCKET NUMBERS</b> 50-329      50-330	<b>4. LICENSE NUMBERS</b> CPPR-81      CPPR-82	<b>5. DATE OF INSPECTION</b> THROUGH AUGUST 27, 1979	
<div style="margin-bottom: 10px;"> <input checked="" type="checkbox"/> 6. Within the scope of the inspection, no items of noncompliance or deviations were found.         </div> <div> <input type="checkbox"/> 7. The following matters are preliminary inspection findings:         </div> <div style="height: 300px; border: 1px solid black; margin-top: 10px;"></div>			
<div style="margin-top: 20px;"> <input type="checkbox"/> 8. These preliminary inspection findings will be reviewed by NRC Supervision/Management at the Region III Office and they will correspond with you concerning any enforcement action.         </div> <div style="text-align: right; margin-top: 20px;">           Nuclear Regulatory Commission Inspector       </div>			

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# PRELIMINARY INSPECTION FINDINGS

<b>1. LICENSEE</b> Consumers Power Company 1945 West Parnall Road Jackson, MI 49201 Midland Unit 1 (Midland, MI) Midland Unit 2 (Midland, MI)		<b>2. REGIONAL OFFICE</b> U.S. Nuclear Regulatory Commission Office of Inspection & Enforcement, RIII 799 Roosevelt Road Glen Ellyn, IL 60137	
<b>3. DOCKET NUMBERS</b> 50-329      50-330	<b>4. LICENSE NUMBERS</b> CPPR-81      CPPR-82	<b>5. DATE OF INSPECTION</b> THROUGH AUGUST 31, 1979	

☐ 6. Within the scope of the inspection, no items of noncompliance or deviations were found.

☒ 7. The following matters are preliminary inspection findings:

Contrary to Engineering Department Procedure EDP-4.63, Supplier Deviation Disposition Requests, auxiliary feedwater pumps were received and installed which had known nonconforming lube oil coolers without requiring the supplier to submit deviation requests.

This is considered an item of noncompliance with 10 CFR 50, appendix B, Criteria V and is an upgrading of unresolved items (329/79-15-01; 330/79-15-01)

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☒ 8. These preliminary inspection findings will be reviewed by NRC Supervision/Management at the Region III Office and they will correspond with you concerning any enforcement action.

R. J. Cook  
 Nuclear Regulatory Commission Inspector