

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

REGION III

Report No. 50-155/77-05

Docket No. 50-155

License No. DPR-6

Licensee: Consumers Power Company
212 West Michigan Avenue
Jackson, MI 49201

Facility Name: Big Rock Point

Inspection at: Charlevoix, MI

Inspection conducted: April 27-29, and May 3-6, 1977

Inspector: *D. R. Hunter*
D. R. Hunter

May 18, 1977
(date signed)

Approved by: *R. F. Warnick*
R. F. Warnick, Chief
Reactor Projects Section 2

5/18/77
(date signed)

Inspection Summary

Inspection on April 27-29, and May 3-6, 1977, (Report No. 50-155/77-05)

Areas Inspected: Plant operations, reportable occurrences, IE Bulletins and Circulars, organization and administration, review and audit, procurement, annual report, quality assurance, outstanding inspection items, unresolved item, and items of noncompliance. The inspection involved 44 inspector-hours onsite by one NRC inspector.

Results: No items of noncompliance or deviations were disclosed.

8101280086

DETAILS

1. Persons Contacted

- *C. R. Bilby, Executive Vice President, Production and Transmission
- *R. B. DeWitt, Manager, Production Nuclear
- *F. M. Macri, Generating Plant Modifications Department
- *W. P. Cooke, Generating Plant Modifications Department
- *F. S. Rittenhouse, Manager, System Protection and Laboratory Services
- *D. M. Noble, Director, Operating Services Department
- *L. M. Hausler, Manager, Operating Services
- *G. J. Walke, Director, Quality Assurance
- *D. A. Taggart, Quality Assurance Administrator
- *D. A. Bixel, Nuclear Licensing Administrator
- *F. M. Buckman, Director, Nuclear Activities Department
- B. W. Marguglio, Director, Quality Assurance
- V. A. Anderson, Director, Purchasing
- J. Webb, Quality Assurance Coordinator, Purchasing
- T. Randolph, Quality Assurance Coordinator, Purchasing
- E. R. VanHoof, Engineer, Operating Services Department
- J. Madden, Quality Assurance Administrator, PE&C
- J. J. Fremeau, Quality Assurance Administrator, Operations
- T. Marz, Quality Assurance Administrator, Services
- W. E. Fogg, Safety and Audit Review Board Secretary
- *J. Hartman, Plant Superintendent
- *D. E. DeMoor, Technical Engineer
- *C. R. Abel, Operations Superintendent
- T. W. Elward, Technical Superintendent
- *J. P. Flynn, Maintenance Superintendent
- R. W. Doan, Training Coordinator
- G. C. Withrow, Plant Engineer
- T. K. Pence, Shift Supervisor
- E. F. Peltier, Shift Supervisor
- J. A. Johnson, Instrument and Control Supervisor
- *K. M. Brun, Plant Review Committee Secretary

The inspector also talked with several other licensee employees, including members of the technical, engineering and quality assurance staffs and reactor and auxiliary operators.

*denotes those attending exit interviews on April 29, and May 6, 1977, at the corporate office and the plant, respectively.

2. Licensee Action on Previous Inspection Findings

(Closed) Noncompliance (50-155/75-15; 50-155/76-01, 50-155/76-18): Failure to provide adequate documented safety evaluations prior to modifications and inadequate design control procedures. The inspector's review revealed that the appropriate corporate quality assurance procedures concerning design, design control, and major and minor modifications have been written.^{1/2/}

(Closed) Noncompliance (50-155/76-09): Failure of the primary core spray system to meet the operability requirements during power operations due to unacceptability of a weld following a modification to the core spray system. The inspector's review revealed that the appropriate System Protection and Laboratory Services personnel indoctrination and training, department procedures, and review of the event with department personnel had been completed.^{3/4/}

(Closed) Noncompliance (50-155/76-09): The weld of the primary core spray was not accomplished in accordance with applicable codes. The program for inspection of the weld activity failed to verify conformance with the weld procedure, and measures to assure nonconformance is promptly identified and corrected were not taken. The inspector's review revealed that the appropriate System Protection and Laboratory Services personnel indoctrination and training, department procedures, and review of the event with the department personnel had been completed.^{5/}

(Open) Unresolved Item (50-155/76-21): The failure to perform a required visual inspection of the containment electrical penetrations potting material. The inspector noted that the penetration potting compound is not readily accessible for visual inspection as required by Technical Specification 3.7.(c).^{6/} This item will remain open pending further review.

(Open) Unresolved Item (50-155/75-05): The failure to test the containment vessel penetrations in accordance with Appendix J to 10 CFR 50.^{7/} This item remains open pending completion of the review of the license submittal by NRR.

- 1/ IE Inspection Rpt No. 50-155/76-04.
- 2/ IE Inspection Rpt No. 50-155/76-12.
- 3/ IE Inspection Rpt No. 50-155/76-13.
- 4/ RO 50-155/76-03.
- 5/ Ibid.
- 6/ IE Inspection Rpt No. 50-155/77-01.
- 7/ Ltr, CP to NRR, dtd 2/13/76.

(Open) Noncompliance (50-155/76-16): The training program for the Plant Maintenance Department not being implemented. This item remains open pending further review by RIII at a subsequent inspection.

3. Licensee Internal Audits

During the review of the licensee quality assurance and technical audit program (paragraph 9), the inspector noted that the licensee had identified inadequacies in the performance of audits during 1976 and had taken corrective action for the item of noncompliance with Technical Specification 6.5.2.9.

While reviewing plant deviation reports (paragraph 4), the inspector noted that the licensee had identified three separate occasions where plant personnel failed to follow approved procedures and that the licensee had taken corrective action for the item of noncompliance with Criterion V of Appendix B to 10 CFR 50.

During the review of a reportable occurrence (paragraph 6) the inspector noted that the licensee had identified and taken corrective action for an item of noncompliance with Technical Specifications Section 9.0 concerning the performance of the inservice inspection program.

During the review of a reportable occurrence (paragraph 13), the inspector noted that the licensee had identified and taken corrective action for an item of noncompliance with Technical Specifications 4.1.5.E concerning the testing of channels in the reactor depressurization system following a channel failure.

4. Plant Operations - General

The inspector reviewed general plant operations including selected operating logs, operating orders, jumper controls, routine plant chemistry, control room manning, equipment tagout status, plant system status, and selected plant annunciators. The inspector observed routine operator actions, plant conditions, and a special test operation of the diesel driven fire pump conducted during a routine fire inspection by the corporate office and NML at the site. The inspector reviewed selected plant deviation reports and licensee action items for the last quarter of 1976 and the first quarter of 1977. The licensee identified three instances where plant personnel had failed to follow procedures while performing certain safety related activities. The inspector evaluated the licensee's

corrective actions taken and the corrective actions taken appeared acceptable. The three deviation reports which identified an item of noncompliance pursuant to Criterion V of Appendix B to 10 CFR 50 were:

- a. BR-76-109, dated August 20, 1976. Release of radioactive liquid batch No. 27-76 with a tank level greater than the batch card level. This was a violation of the approved standard operating procedure which requires that the batch card tank level be verified to be the same as the actual tank level prior to commencing a release. The event was reviewed with the appropriate personnel and the corrective action appeared acceptable.
- b. BR-76-136, dated December 3, 1976. Maintenance performed on the liquid process monitor system prior to notifying the Quality Assurance Department which was not in accordance with the approved Administrative Procedure. Administrative Procedure 1.5 requires the QA Department to review all safety related maintenance. The event was reviewed with the appropriate personnel and the corrective action appeared acceptable.
- c. BR-77-27, dated February 24, 1977. A maintenance activity was performed on a reactor protection motor generator set without the appropriate equipment outage request (EOR) and the shift supervisor release which was not in accordance with the approved administrative procedure for maintenance activities. The event was reviewed with the appropriate personnel and the corrective action appeared to be acceptable.

5. Plant Tour

The inspector toured selected plant areas to observe operations, plant cleanliness and housekeeping, installed plant tags, monitoring instrumentation, radiation controls, general system conditions (fluid leaks and vibrations), pipe hangers, and selected valve and electrical breaker positions.

The inspector noted the plant housekeeping had deteriorated in the areas of recent maintenance activities where items were left lying around at the maintenance sites. This area was discussed at the exit interview.

The inspector noted a questionable hose installed on the hose reel for supplying the core spray recirculation heat exchanger with an alternate source of fire protection cooling water. The licensee

removed the questionable hose, and reeled the hose out to verify 250 feet of acceptable hose on the reel. The inspector has no further questions concerning this matter at this time.

No items of noncompliance or deviations were noted.

6. Review of Nonroutine Events Reported by the Licensee

The inspector reviewed licensee actions with respect to the following nonroutine event reports to verify that the events were reviewed and evaluated by the licensee as required by the Technical Specifications, that corrective action was taken, and that the plant limits were not exceeded. The inspector reviewed selected logs, meeting minutes, and interviewed selected plant personnel.

Access hatch to the stack fan suction duct found open (RO 77-03).

Emergency diesel generator removed from service for maintenance (RO 77-05).

Removal of one reactor depressurization system channel from service for maintenance (RO 77-06).

Reactor depressurization system battery "B" cell No. 27 low specific gravity (RO 77-08).

Reactor depressurization system battery "A" cells (5) low specific gravity (RO 77-09).

Emergency deisel generator starting time in excess of requirements (RO 77-10).

Inadequacies in the inservice inspection program for the first 3-1/3 year period (RO 77-14). The licensee identified inadequacies in the ISI program during the review and rewrite of the new 10-year program. The examinations which were not performed during the first 3-1/3 year program have been scheduled to be performed during the forthcoming outage. The licensee representative indicated that the ISI program should be relatively complete following the update in 1976 and the present 10-year program rewrite. This matter was discussed in the management exit interview. The failure to adequately complete the inservice examination in accordance with Technical Specification 9.0 is an item of noncompliance and is an infraction. The inspector verified the licensee corrective action, including examination, identification and inspector schedule, and it appeared acceptable.

No items of noncompliance or deviations were identified.

7. Licensee Actions on IE Bulletins and Circulars

The inspector reviewed the licensee's actions taken and interviewed licensee representatives concerning IE Circular 76-07. The inspector reviewed the licensee's actions routinely completed concerning IE Circulars dispatched for information only (IE Circulars 77-01 through 77-07).

- a. IE Circular 76-07: The inspector's review determined that the requested areas were addressed by the licensee. Each of the programmatic areas has been audited by RIII during the routine inspection program and also is scheduled for technical and/or quality assurance audits by the licensee. The licensee considered and addressed random backshift and weekend visits and considered the shift supervisor as the onshift management member.^{8/}
- b. IE Circulars 77-01 through 77-07: The inspector reviewed the company and plant methods for review of "information" circulars with the licensee representatives. The licensee distributes the circulars to key plant personnel and also formally reviews the circular as a Plant Review Committee item.

No items of noncompliance or deviations were noted.

8. Organization and Administration

The inspector reviewed selected areas of plant and corporate organization and administration including the Safety Audit and Review Board (SARB), charter, selected department personnel, and changes to the organization.

The inspector noted that the promotion of two personnel to the position of Department Superintendent and utilized as "On-Duty Superintendents" was not proceeded by a specific formal training and certification program for the Big Rock Point Nuclear Plant. This item was discussed at the management interview as a possible weakness in the plant management program.

No items of noncompliance or deviations were disclosed.

9. Review and Audit

The inspector reviewed the Safety Audit and Review Board (SARB) functions with the licensee representatives. The inspector reviewed specific areas including reporting requirements, membership and background requirements, handling of the SARB minutes, selected responsibilities of the SARB, use of alternate members, special

^{8/} Ltr, CP to RIII, dtd 3/17/77.

meetings, technical and quality assurance audits and reviews, and review of the Plant Review Committee (PRC) minutes.

The inspector reviewed the quality assurance audit program for 1976 and noted that the licensee had identified audit program discrepancies and had scheduled quality assurance audits for 1977, which included the areas missed during 1976 to meet the requirements of the Technical Specifications.

The inspector reviewed selected technical audits and the audit program for 1976 and noted that the licensee had identified audit program discrepancies and had scheduled technical audits for 1977, which included the areas which had been scheduled, but missed, during 1976.

The failure to perform quality assurance audits and certain technical audits pursuant to Technical Specification 6.5.2.9 is an item of noncompliance and is an intransaction. The licensee corrective actions taken appear adequate.

10. Procurement

The inspector reviewed selected department procedures and management controls with the licensee representatives concerning procurement activities including purchase requisitions, memorandum of change to a purchase order, contracts, transcription of information from procurement documents to purchase orders, quality assurance releases, and approved bidders list.

No items of noncompliance or deviations were identified.

11. Annual Report

The inspector reviewed selected items in the annual report submitted by the licensee for 1976,^{9/} including reporting in accordance with the Technical Specifications, outage records, and indications of failed fuel. The record review included facility changes, maintenance items, procedure changes, training, and scram reports.

No items of noncompliance or deviations were identified.

12. Quality Assurance

Selected areas of the quality assurance program were reviewed by the inspector to verify adequate procedures and management controls. The areas reviewed included management, organization, design and design control, review, and audit. The inspector reviewed the

^{9/} Ltr, CP to RIII, dtd 2/25/77.

implementation schedule^{10/} for the specific areas within the quality assurance program (discussed with the licensee in the management exit) and the progress being made by the licensee. The inspector noted significant progress in certain selected areas including qualification and certification of plant personnel and overall plant training.

No items of noncompliance or deviations were identified.

13. Licensee Nonroutine Event

The inspector reviewed an event concerning the reactor depressurization system. A power supply failed at 0020 on May 3, 1977, on the "D" channel. The licensee failed to test the other three channels within 4 hours as required by Technical Specification 4.1.5.E. The channel was repaired and tested by 0610 and declared operable at 0730 which exceeded the testing requirements by almost 2 hours (0420 until 0610) and more than 3 hours by procedure (0420 until 0730). The other three channels were operable during the event as determined by previous surveillance and continuous monitoring by the auto test clock feature. This matter was discussed during the management exit interview.

The failure to perform logic testing of reactor depressurization channels A, B and C within 4 hours of the failure is an item of non-compliance pursuant to Technical Specification 4.1.5.E and is an infraction.

The inspector reviewed the corrective action planned by the licensee, including the requirement to commence testing of the other three channels immediately in order to complete the testing within four hours as required by the Technical Specifications. The corrective actions appear adequate.

14. Outstanding Items

The inspector reviewed selected outstanding inspection items to ascertain completion of the activities by the licensee.

The instrument data list has been completed and the instrument data book, including the preventive maintenance and calibration, was being typed. The completion date for the activity is July 1, 1977. The calibration procedures will be written as needed to complete calibration of plant instrumentation during the next refueling outage. The inspector verified that the fire protection system pressure

10/ Ltr, CP to NRR, dtd 12/14/76.

recorder and indicator were on the data list and scheduled to be calibrated. The instrument data book will complete the licensee's preventive maintenance program^{11/12/} for instrumentation and maintenance.

The review of the completed study^{13/14/} performed by the licensee (AIR BR 65-75) concerning overflow of the condensate storage tank (CST) revealed that the condensate storage tank (CST) internal overflow path will accept full condensate pump reject flow to prevent overflow of CST water to the yard area outside the turbine building.

The review of the completed evaluation performed by the licensee (AIR BR 77-03) to determine core spray valve opening requirements to obtain 400 gpm flow to the core revealed that a valve opening of 38% is required and is obtained in 6.5 seconds after energizing the valves. The safety analysis requires core spray flow in 20.4 seconds or less; therefore, a period of 13.9 seconds is available to energize the emergency bus during a LOCA.^{15/} The inspector noted that the emergency diesel generator (start) test performed on May 5, 1977, contained the new acceptance criteria of 13.9 seconds.

15. Exit Interview

The inspector conducted a management interview with the licensee representatives (denoted in paragraph 1) at the conclusion of the inspection at corporate headquarters on April 29, 1977, and at the plant on May 6, 1977. The inspector summarized the scope and findings of the inspection. The licensee made the following remarks in response to certain items discussed by the inspector:

April 29, 1977

Acknowledged the inspector's statement concerning the item of noncompliance in the area of technical and quality assurance audits (paragraph 9).

Acknowledged the inspector's statement concerning the review and tracking of audit findings by the SARB, whether the findings are issued as non-conformances (Projects Engineering and Construction) or deviations (Production and Transmission) when plant safety related activities are involved (paragraph 9).

- 11/ IE Inspection Rpt No. 50-155/76-10
- 12/ IE Inspection Rpt No. 50-155/76-21.
- 13/ IE Inspection Rpt No. 50-155/75-11.
- 14/ IE Inspection Rpt No. 50-155/75-15.
- 15/ IE Inspection Rpt No. 50-155/77-02.

Acknowledged the inspector's comment concerning the implementation schedule of the approved Consumers quality assurance program (paragraph 12).

Acknowledged the inspector's comment concerning the assignment of personnel to the plant at the superintendent levels relative to being qualified at the assigned plant and assuming the position of "On-Duty Superintendent" (paragraph 8).

Acknowledged the inspector's comment concerning the licensed operator retraining program weaknesses at the plant (paragraph 12).

May 6, 1977

Acknowledged the inspector's statement concerning the item of noncompliance for failing to follow procedures (paragraph 4).

Acknowledged the inspector's statement concerning the open unresolved item dealing with the visual inspection of the containment electrical penetrations (paragraph 2).

Acknowledged the inspector's statement concerning the closeout of the items of noncompliance concerning design control and the core spray weld (paragraph 2).

Acknowledged the inspector's statements concerning the reportable occurrences on the reactor depressurization system on May 3, 1977. The licensee stated that a misunderstanding had occurred for testing concurrently with the initial failed channel resulting in the system being in the "two channels available" mode. The inspector stated that the Technical Specifications required testing with one channel inoperable within 4 hours and each 72 hours thereafter for a maximum of 7 days and was therefore considered in the safety analysis and allowable.

Acknowledged the inspector's statement concerning the inservice inspection program inadequacies identified by the licensee during preparation of the new 10-year plan (paragraph 6). The licensee stated that the ISI program should be relatively complete and the program would be updated during each inspection conducted if further discrepancies were noted.