

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

REGION III

Report No. 50-155/77-12

Docket No. 50-155 License No. DPR-6

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

Facility Name: Big Rock Point Nuclear Plant

Inspection at: Big Rock Point Site, Charlevoix, MI

Inspection Conducted: August 17-19 and September 6-9, 1977

Inspectors: *D. R. Hunter*  
D. R. Hunter

9/28/77

J. E. Kohler

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

9-28-77

Inspection Summary

Inspection on August 17-19 and September 6-9, 1977 (Report No. 50-155/77-12)

Areas Inspected: Routine, announced inspection of plant operations, records, reportable occurrences, maintenance, outstanding inspection items, and procedures and preparation of the containment integrated leak rate test. The inspection involved 41 inspector-hours onsite by two NRC inspectors.

Results: No items of noncompliance or deviations were identified.

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## DETAILS

### Section I

#### 1. Persons Contacted

- \*C. J. Hartman, Plant Superintendent
- \*D. E. DeMoor, Technical Engineer
- \*T. W. Elward, Technical Superintendent
  - F. J. Valade, Shift Supervisor
  - W. F. Blissett, Shift Supervisor
  - R. E. Schrader, Senior Technologist
- \*A. C. Sevener, Operations Supervisor
- \*G. Gilbody, Quality Assurance Engineer
- \*K. M. Brun, Plant Review Committee Secretary

The inspector contacted several other licensee employees, including members of the technical, engineering, administrative staffs, and reactor and auxiliary operators.

\*denotes those attending the management exit on September 9, 1977.

#### 2. Plant Operations

The inspector reviewed general plant operations including selected logs, procedures, controls, control room manning, equipment tagout status, plant system status, selected plant annunciators, and plant deviation reports.

The inspector noted that the licensee had identified and taken the appropriate corrective actions concerning two items; the failure to follow a procedure during a plant special surveillance test (SST-02, RDS Valve Test, step 3.3), and the failure of the Plant Review Committee to review a safety related procedure (Plant Manual, Volume 13) due to inadequate procedural controls.

The licensee also identified setpoint drifts during the refueling calibration of certain reactor pressure instrumentation (PS-RE-07A, C7B, 07C, 07D). The instrument setpoints had drifted in the conservative direction and were reset to be within the desired tolerances.

No items of noncompliance or deviations were identified.

3. Records

The inspector reviewed selected plant records to ascertain that control, storage, retention, and retrieval of records and documents were in accordance with the requirements. The inspector noted that the licensee is continuing to pursue complete implementation of the records storage system at the plant.

No items of noncompliance or deviations were identified.

4. Reportable Occurrences

The inspector reviewed the licensee actions completed concerning the following nonroutine event reports to verify that the events were reviewed and evaluated as required, that the corrective actions were taken, and that selected plant limits were not exceeded. The review included selected records, meeting minutes, and interviews of selected plant personnel.

- a. RO 77-21<sup>1/2/</sup> - Reactor Depressurization System Battery "B" Low Specific Gravity.
- b. RO 77-22 - No. 7, 46 KV Transformer Removed from Service for Repair Due to a Defective Bushing Insulator.
- c. RO 77-23 - Reactor Depressurization System Steam Drum Actuation Sensor Drift.
- d. RO 77-24 - Visual Indication on the 6 Inch Coolant Inlet Pipe to the Emergency Condenser Not Within Code Requirements.

The licensee has cut the weld out for repair. Other welds inspected in the emergency condenser system revealed no problems.

No further questions are required of this matter at this time.

- e. RO 77-26 - Reactor Protection System Vacuum Trip Interlock Setpoint Drift.
- f. RO 77-27 - Failure of the Automatic Transfer of Power to the Emergency Bus (2B) During Routine Scheduled Surveillance Testing.

The occurrence was apparently caused by an inadequate functional testing program following a modification. The licensee has reviewed the inadequacy and recent modification procedure upgrading should help to preclude such occurrences. During the past

1/ RO 50-155/77-08.

2/ IE Inspection Rpt No. 50-155/77-02.

operating cycle (1975-1977) the emergency power system was operable and the bus tie breaker (2A-2B) which caused the event was maintained in the racked-in position.

No further questions are required of this matter at this time.

- g. RO 77-29 - Control Rod Drive Pumps Internal Poppets and External Check Valves Leaked Excessively.

The CRD pump discharge check valves could not be repaired due to internal degradation, therefore, the licensee installed a 2 inch check valve in the common suction line to the CRD pumps to provide the redundant containment isolation functions for each pump.

No further questions are required of this matter at this time.

- h. RO 77-30 - Control Rod Drive Pump Piston Shaft Cooling/Lubricating Line Design Deficiency (No Check Valves Installed for Containment Isolation).

The recent improvements in the design control procedures should prevent a reoccurrence of this type in the future.

No further questions are required of this matter at this time.

- i. RO 77-31 - Containment Isolation Check Valve in the Demineralized Water Supply Line Leaked Excessively.
- j. RO 77-33 - Backup Cooling Supply Hose to the Post-Incident Heat Exchanger Contained a Leaking Section.
- k. RO 77-34 - Weld Indications on the 2 Inch Bypass Line Around the Cleanup Demineralizer in the Cleanup System.
- l. RO 77-35 - Containment Spray Flow Transmitter FT-2164 and FT-2161 Inaccurate.

5. Maintenance

The inspector reviewed selected maintenance activities during the outage and verified that the maintenance was being performed in accordance with the requirements.

The review revealed the apparent need to strengthen the management requirements for implementing quality control and independent verification hold points. This item was discussed at the management exit.

No items of noncompliance or deviations were identified.

6. Outstanding Inspection Items

The inspector reviewed the following selected outstanding items to assure adequate licensee response and action:

Emergency Diesel Generator Full Load Test (TR-42)<sup>3/</sup>

The inspector reviewed the procedure (TR-42, Rev. 1, 4/77, and Rev. 2, 9/9/77). Due to apparent load bank problems, the test was delayed for a short period and the inspector discussed the test with the licensee representative on September 14, 1977. No problems were apparently encountered.

No further questions are required of this matter at this time and this item is considered closed.

Station Battery Service Test (TR-65S, 8/3/77, Rev. 0)<sup>4/</sup>

The inspector reviewed the procedure and discussed the results with the licensee representative. The test loaded the battery with the simulated emergency loads for a period of 61 minutes. The test results indicated a total load of 193.9 ampere-hours with a minimum battery voltage of 105.2 volts DC during minute 31 at 401 amperes discharge rate. The final battery voltage at the end of minute 61 was 109.6 volts DC and the voltage recovered to 118.3 volts at zero load at the end of the test.

No further questions are required of this matter at this time and this item is considered closed.

Station Battery Discharge Test (TV-16S, 8/17/77, Rev. 0)<sup>5/</sup>

The inspector reviewed the procedure and discussed the results with the licensee representative. The test loaded the battery at greater than 72 amperes for 7 hours at which time the overall battery voltage dropped below 105 volts DC. The calculated battery capacity indicated

3/ IE Inspection Rpt No. 50-155/76-12.

4/ Ibid.

5/ Ibid.

86.3 percent as compared to the required 80 percent. The test was considered acceptable. During the test, certain battery cell voltages had decreased to below 1.75 volts DC (10 cells), certain battery cells specific gravity had decreased below 1.090, and one cell voltage had dropped to approximately 0.72 volts DC. The licensee was reviewing the apparent discrepancies to determine the corrective actions necessary.

This item was discussed with the licensee representative and will remain open pending the completion and review of the item.

Reactor Depressurization System UPS Battery Discharge Test (TV-16 A-D, 8/12/77, Rev. 0)<sup>6/</sup>

The test loaded the batteries at greater than 26 amperes for approximately 1 hour when the overall battery voltage decreased to 105 volts DC. The test revealed battery capacities in excess of 100 percent as compared to the requirement of 80 percent. The tests were considered acceptable. During the tests on the UPS "B" and "D" batteries, batteries No. 9 and No. 18, respectively, indicated low voltage readings. The licensee plans to replace the battery cells. The inspector discussed this item with the licensee representative and this item will remain open pending the completion and review of the licensee evaluations.

Emergency Core Cooling System Online Testing<sup>7/8/</sup>

The procedures for online testing of the ECCS were not available for review by the inspector and this item will remain open.

Primary Ring Core Spray Valves

The inspector noted that the licensee had elevated the ring core spray valves to approximately the 591 foot EL as indicated in the order<sup>9/</sup> from the Commission.

No further questions are required of this matter at this time and the item is considered closed.

Loss of Coolant Qualified Pressure Transmitter<sup>10/</sup>

The licensee completed the installation of the LOCA qualified pressure transmitter to provide primary system pressure indication to the reactor operator in the control room for monitoring of the system pressure following an incident.

- 6/ Ibid.
- 7/ Memorandum and Order dated 5/26/77.
- 8/ IE Inspection Rpt No. 50-155/76-10.
- 9/ Memorandum and Order dated 5/26/76.
- 10/ Ltr, CP to NRR, dtd 6/2/76.

No further questions are required of this matter at this time and this item is considered closed.

No items of noncompliance or deviations were identified.

#### Management Exit

The inspector conducted a management interview with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection at the plant site on September 9, 1977. The inspector summarized the scope and findings of the inspection. The licensee made the following remarks in response to the items discussed by the inspector.

The licensee acknowledged the inspector's statements concerning the instrument drift on the reactor pressure instrumentation. By telecon on September 14, 1977, the licensee was informed that the out-of-tolerance instrument readings were not reportable due to the drift being in the conservative direction; therefore, the actions taken by the licensee appeared acceptable (paragraph 2).

The licensee acknowledged the inspector's statement that two violations of Technical Specifications had been identified and corrected concerning failure to follow procedures and inadequate procedures (paragraph 2).

The licensee acknowledged the inspector's statement concerning the modification test program as related to the failure to adequately test the emergency bus tie breaker 2A-2B (paragraph 4).

The licensee acknowledged the inspector's comment concerning the apparent lack of hold points in the procedures and activities reviewed during the inspection (paragraph 5).

The licensee acknowledged the inspector's comment and concern that the procedures for online testing of the ECCS instrumentation had not been written and indicated that the area would be reviewed during a subsequent inspection (paragraph 6).

By telecon on September 21, 1977, the licensee acknowledged the inspector's statement that a violation of the Technical Specifications and a violation of Criterion XI of Appendix B to 10 CFR 50 had been identified and corrected concerning the failure to maintain containment integrity and inadequate modification testing, respectively (paragraph 4).

DETAILS

Section II

Prepared by: [Signature] 9/23/77  
J. E. Kohler  
Reviewed by: [Signature] 9/28/77  
W. S. Little, Chief  
Nuclear Support Section

1. Persons Contacted

- \*J. P. Flynn, Operations Superintendent
- \*T. W. Elward, Technical Superintendent
- \*D. Blanchard, Reactor Engineer
- \*T. L. Bordine, QA Superintendent
- \*D. DeMoor, Technical Engineer
- \*K. M. Brun, Technical Clerk

\*denotes those attending the management exit on August 19, 1977.

2. Valve Lineup Audit

The inspector reviewed the proposed valve lineup for the 1977 CILRT. Ten penetrations were selected at random for inspection. In all cases, the lineup was correct or the proper exemption pertaining to 10 CFR 50, Appendix J, had been applied for.

3. 10 CFR 50, Appendix J, Exemption Request

The inspector reviewed the exemption request which the licensee had prepared detailing the specific areas where the licensee's testing program did not meet the provisions of 10 CFR 50, Appendix J.

During the review, it was determined that the licensee did not apply for exemptions in the following areas:

- a. Primary containment single bellows.
- b. Formula in Technical Specifications describing acceptance criteria for CILRT.

The licensee stated that modifications to the exemption request would be prepared to include the above areas.

4. CILRT Instrumentation and Calibration

The inspector reviewed the procedures which describe the steps the licensee takes to calibrate the CILRT instrumentation. It



was determined that the licensee had no acceptance criteria to perform the calibration. The licensee stated that the proper acceptance criteria would be developed.

5. MSIV Testing

The licensee stated that a hydrostatic test of the main steam isolation valve was the only current leak test being performed on this valve and that the acceptance criteria, as stated in Technical Specification 3.7.B, was in drops/second. However, the inspector reviewed a leak test procedure, TV-10, and found no such acceptance criteria. The licensee will add the acceptance criteria.

6. Exit Interview

An exit interview was conducted by Mr. Kohler at the conclusion of this inspection in which the inspector described his findings.