

UNITED STATES NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report of Operations Inspection

IE Inspection Report No. 050-155/76-18

Licensee: Consumers Power Company
212 West Michigan Avenue
Jackson, Michigan 49210

Big Rock Point Nuclear Plant
Charlevoix, Michigan

License No. DPR-6
Category: C

Type of Licensee: BWR (GE), 240 Wt

Type of Inspection: Routine, Announced

Dates of Inspection: September 10-24, 1976

Principal Inspector:

D. R. Hunter
D. R. Hunter

10-12-76

(Date)

Accompanying Inspectors: None

Other Accompanying Personnel: None.

Reviewed By:

D. C. Boyd
D. C. Boyd, Acting Chief
Reactor Projects Section 2

10-12-76

(Date)

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SUMMARY OF FINDINGS

Inspection Summary

Inspection on September 20-24, 1976, (76-18): Review of reportable occurrences, review and audits, plant cleanliness, operations, annual report, organization and administration, item of noncompliance, and outstanding inspection items. One item of noncompliance was identified concerning the failure to provide adequate design control measures.

Enforcement Items

The following item was identified during the inspection:

Infraction

Contrary to Criterion III of Appendix B to 10 CFR 50, adequate design control measures were not employed during a modification to a safety related control circuit. (Paragraph 7, Report Details)

Licensee Action on Previously Identified Enforcement Items

A review of the licensee's corrective actions concerning the plant modification controls indicates that the procedure reviews and revisions are not complete. (Paragraph 6, Report Details)

Other Significant Items

A. Systems and Components

None.

B. Facility Items (Plans and Procedures)

The licensee completed two shipments of irradiated fuel pins to the Argonne National Laboratory during the week of September 20, 1976.

C. Managerial Items

None.

D. Noncompliance Identified and Corrected by Licensee

None.

E. Deviations

None.

F. Status of Previously Reported Unresolved Items

1. The design review concerning the emergency diesel generator control circuit has been completed. This item is considered resolved. (Paragraph 7.a, Report Details)
2. The vacuum relief function of the containment ventilation valves has been evaluated, and a modification to provide an alternate path for vacuum relief is being planned. This item is considered resolved. (Paragraph 7.b, Report Details)

Management Interview

The management interview was conducted on September 24, 1976, by Mr. Hunter with the following persons present:

- R. B. DeWitt, Manager, Production and Transmission
- D. E. DeMoor, Technical Engineer
- T. W. Elward, Technical Superintendent
- J. P. Flynn, Maintenance Superintendent
- A. C. Sevener, Operations Supervisor

- A. The inspector stated that a review of plant operations, reportable occurrences, review and audits, selected outstanding items, unresolved items, organization and administration, annual report, and plant cleanliness revealed no discrepancies.
- B. The inspector stated that during the review of the updating of the Q-list concerning the electrical bus loads and tripping functions revealed inadequacies including certain trip functions omitted and the Q-list not being maintained up-to-date.

The licensee stated that the items had been added to the Q-list, the Q-list reviewed for updating and Administrative Procedure 1.10 revised to maintain the Q-list currently pending completion of the document control procedures. (Paragraph 5.c, Report Details)

- C. The inspector stated that the review of the corrective actions concerning the design control during minor and major modifications at the plant, including the Administrative Procedures and Engineering Department Procedures, appeared adequate. The inspector also stated that an offsite review of the design control procedures will be required to close out the items of noncompliance.

The licensee acknowledged the statements made by the inspector.
The licensee stated that Quality Assurance Procedure 3-53 for minor
modifications was presently under final review and nearing completion.
(Paragraph 6, Report Details)

REPORT DETAILS

1. Persons Contacted

C. J. Hartman, Plant Superintendent
D. E. DeMoor, Technical Engineer
C. R. Abel, Operations Superintendent
T. W. Elward, Technical Superintendent
J. P. Flynn, Maintenance Superintendent
G. B. Szczotka, Quality Assurance Superintendent
A. C. Sevener, Operations Supervisor
T. K. Pence, Shift Supervisor
P. M. Donnely, Control Operator
E. M. Evans, Plant Engineer

2. Review of Operations

The inspector reviewed selected records and activities to be in accordance with Technical Specifications and Administrative Procedures.

The review included the Shift Supervisors Log, Control Room Log, Reactor Log, Operating Memos, Control Room Status Board, Logging and Switching Orders, and Plant Annunciators.

No discrepancies were noted.

3. Reportable Occurrences

The inspector reviewed the following reportable occurrences to assure adequate review, evaluations, corrective actions and reporting:

- a. LER RO-15-76, Station battery charger failed resulting in a reduced battery voltage and specific gravities of 120 volts and 1.175, respectively.

The licensee reported^{1/} that the station battery charger failed due to defective silicon rectifiers. The silicon rectifiers were replaced and the unit returned to service.

The inspector reviewed the event with the licensee representative. The failure was determined to be normal equipment malfunction.

The inspector verified that hourly ampere readings and voltage readings were taken during the reduced load operation for 13 hours.

No discrepancies were noted.

1/ Ltr, CP to IE:III, dtd 7/30/76.

- b. LER RO-17-76, Station battery specific gravity readings less than 1.200.

The licensee reported^{2/} that the specific gravities taken following addition of water to the station battery revealed many cells at less than 1.200 specific gravity.

The inspector reviewed the event with the licensee representative. Apparently water had been added to the battery cells on September 17, 1976, resulting in the low specific gravity readings.

The licensee has provided procedure changes to note watering dates, decreased water level changes and specific gravity readings on all cells if the pilot cell specific gravity reading is found low.

No discrepancies were noted.

- c. LER RO-18-76, Emergency diesel generator starting time in excess of 15 seconds.

The licensee reported^{3/} that the emergency diesel generator failed to start within 15 seconds during routine weekly testings.

The inspector reviewed the event with the licensee representative and determined that the starting failures are under review and the diesel surveillance has recently (September 20, 1976) been increased in an attempt to identify the intermittent failure to start problem with the diesel engine.

The inspector verified that the diesel started on September 20, 1976, during the special manual start test in approximately four seconds; and also that on September 23, 1976, the diesel started in approximately four seconds.

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

- d. LER RO-19-76, Reactor Depressurization System battery D pilot cell was below specification of 1.200 specific gravity.

The licensee reported^{4/} that the specific gravity of the reactor depressurization system battery D was found below 1.200 during normal monthly surveillance.

2/ Ltr, CP to IE:III, dtd 8/4/76.

3/ Ltr, CP to IE:III, dtd 8/19/76.

4/ Ibid.

The inspector reviewed the event with the licensee representative. The corrective actions include procedure changes to reduce the water level changes in the cells, provide for specific gravity readings on all cells if the pilot cell is below 1.200, logging of water additions and cell voltage readings when the cell specific gravity is low.

No discrepancies were noted.

- e. LER RO-20-76, Reactor Depressurization System battery C pilot cell was below specification of 1.200 specific gravity.

The licensee reported^{5/} that the specific gravity of the reactor depressurization system battery C was found below 1.200 during normal monthly surveillance.

The inspector reviewed the event with the licensee representative. The corrective actions include procedure changes to reduce the water level in the cells, provide for specific gravity readings on all cells if the pilot cell is below 1.200, logging of water additions and cell voltage readings when the cell specific gravity is low.

No discrepancies were noted.

- f. LER RO-21-76, The emergency diesel generator failed to start within the required 15 second criteria.

The licensee reported^{6/} that the emergency diesel generator failed to start within the required 15 second criteria during weekly testing.

The inspector reviewed the event with the licensee representative and determined that the starting failures are under review and the diesel surveillance has recently (September 20, 1976) been increased in an attempt to identify the intermittent failure to start problems with the diesel engine.

The inspector verified subsequent starts on the emergency diesel generator during the week of September 20, 1976.

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

- g. LER RE-22-76, The Emergency Diesel Generator failed to start due to a starting battery cable failure.

The licensee reported^{7/} that the emergency diesel generator failed to start during the routine weekly tests.

5/ Ibid.

6/ Ltr, CP to IE:III, dtd 9/3/76.

7/ Ltr, CP to IE:III, dtd 9/7/76.

The inspector reviewed the event with the licensee representative. The battery cable was repaired and the diesel retested, the battery cable was inspected, and the voltage drop taken across the connection.

No discrepancies were noted.

- h. LER RO-23-76, Failure to retest the emergency diesel generator after an outage.

The licensee reported^{8/} that the emergency diesel generator was not retested following the failure to start within the 15 second criteria.

The inspector reviewed the event with the licensee representative and verified that procedure changes were made on the weekly test procedure to prevent recurrence.

The inspector verified that the diesel generator did start during the routine test.^{9/}

No discrepancies were noted.

- i. LER RO-24-76, Failure of the power range channel to respond during startup low power operation.

The licensee reported^{10/} that the power range monitor, number 2, did not respond properly during startup operation following corrective maintenance on the neutron detector cables.

The inspector reviewed the event with the licensee representative. The licensee issued a training memo on September 1, 1976, and posted specific instructions at the detector location to assure proper connections in the future.

The corrective action appear adequate and no discrepancies were noted.

4. Review and Audits

The inspector reviewed selected plant records and procedures concerning review and audit requirements to be performed in accordance with Administrative Procedures, Quality Assurance Procedures and regulatory requirements.

8/ Ltr, CP to IE:III, dtd 9/3/76.

9/ LER RO-21-76.

10/ Ltr, CP to IE:III, dtd 9/7/76.

The inspector's review included:

- a. Selected onsite Plant Review Committee Minutes.
- b. Selected offsite Safety Audit Review Board Minutes.
- c. Audit plans.
- d. Audit schedules.
- e. Quality Assurance Program Procedures.
- f. Selected department procedures.
- g. Technical Specifications.
- h. Administrative Procedures.

The inspector discussed the review and audit responsibilities with the appropriate department heads and other personnel.

No discrepancies were noted.

5. Outstanding Items

Selected outstanding inspection items were reviewed by the inspector for completion.

- a. The inspector reviewed the emergency shutdown procedure, D2.25, to include subsequent operator actions.^{11/}

No discrepancies were noted and this item is considered closed.

- b. The inspector reviewed Administrative Procedure 1.9.E controlling the use of functionally equivalent substitutions in safety related activities.^{12/13/}

^{11/} IE Inspection Rpt No. 050-155/76-13.

^{12/} IE Inspection Rpt No. 050-155/76-10.

^{13/} IE Inspection Rpt No. 050-155/76-13.

The inspector discussed with the licensee the use of the FES procedure for temporary changes and additive items and chapter 16.6 of the Engineering Manual.

No discrepancies were noted and this item is considered closed.

- c. The inspector reviewed the licensee engineering evaluation and corrective actions^{14/} taken to update the plant Q-list concerning the safety related bus loads and tripping functions.

The inspector's review of the associated electrical prints with the licensee's representatives revealed that a number of trip devices were not included in the evaluation and corrections made to the Q-list. The items were added to the Q-list.

The inspector discussed with the licensee representative the use of the Q-list in its present status and noted that the control of the Q-list during the interim period, until the new document control procedures are implemented later this year, needed to be addressed immediately. Administrative Procedure 1.10 was revised to provide updating of the Q-list during plant changes and modifications based on the DCN (drawing change notice).

The licensee evaluated the Q-list drawings and updated the Q-list during the inspection.

No other discrepancies were noted and the item is considered closed.

- d. The inspector verified that acceptance criteria had been included on the control room log sheets.^{15/}

No discrepancies were noted and this item is considered closed.

- e. The inspector reviewed the Technical Data Book, Section 15.5.A, and Operating Procedure, Step B1.3.3.2, to verify that the rod withdrawal insertion and withdrawal sequence was adequately specified and controlled by management^{16/} to assure proper rod movement within individual groups.

No discrepancies were noted and this item is considered closed.

^{14/} IE Inspection Rpt No. 050-155/76-12.

^{15/} IE Inspection Rpt No. 050-155/75-15.

^{16/} IE Inspection Rpt No. 050-155/76-13.

6. Items of Noncompliance

The inspector reviewed the plant corrective actions taken associated with previous items of noncompliance^{17/18/} concerning design control during minor and major modifications.

The inspector's review included:

- a. Quality Assurance Program Policy No. 3, Design Control.
- b. Quality Assurance Program Procedure No. 3-52, Major Modifications.
- c. Administrative Procedure 1.9, Plant Modifications.
- d. Plant Engineering Manual Procedures; Section 16.5, Engineering Design Control-Minor Modifications and Section 16.6, Project Engineer Engineering Interfaces - Major Modifications.

The inspector's review included review of the Quality Assurance Procedure and Administrative Procedure requirements and Engineering Manual Procedures for performance of the design activities.

No discrepancies were noted during the review.

The close out of the items of noncompliance will be completed following further review of offsite procedures for major and minor modifications, including Quality Assurance Procedure 3-53 for minor modifications.

During the interim period, the plant is continuing to consider each facility change as safety related until deemed otherwise by the Plant Review Committee action just prior to authorization of implementation of the facility work.^{19/20/21/}

7. Previous Unresolved Items

The inspector reviewed the status of the unresolved items.

- a. Facility Change SPS-76-C-358,^{22/} Emergency Diesel Generator Control Circuit. The design, design review and safety

17/ IE Inspection Rpt No. 050-155/75-15.

18/ IE Inspection Rpt No. 050-155/76-01.

19/ 050-155/AO 24-75.

20/ IE Inspection Rpt No. 050-155/75-15.

21/ Ltr, CP to NRR, dtd 12/19/75.

22/ IE Inspection Rpt No. 050-155/76-13.

evaluation for the facility change were reviewed. The design and design review were performed onsite on July 20, 1976, subsequent to the completion of the facility change on June 13, 1976, following an attempt to locate the reviews offsite.

The inspector verified the current loading on the emergency diesel generator control circuit during review of testing documentation performed by the plant staff on July 1, 1976. The fixed load on the circuit was 0.1 amperes with a transient load of approximately .2 seconds of 8.3 amperes maximum. This circuit was fused by a 2.0 ampere fuse. Thus, a condition existed that could have resulted in the loss of the diesel generator control circuit which would render the diesel generator inoperable. This deficiency was not identified during the company reviews of this facility change. The supply breaker test data was reviewed and appeared adequate, including the normal loading and the trip testing.

The failure to provide adequate design control measures during this facility change is considered an item of noncompliance pursuant to Criterion III of Appendix B to 10 CFR 50.

No response is necessary for this item of noncompliance since the area of major and minor modification control is included in ^{23/24/}corrective actions for previous items of noncompliance. The corrective actions being presently taken by the licensee should prevent a recurrence of this type administrative breakdown.

- b. The vacuum relief function ^{25/26/} of the containment ventilation system has been evaluated and a modification to provide an alternate containment vacuum relief path is being pursued concurrently with the ^{27/}engineering and design of the cask drop modifications which are planned to be completed during a future outage.

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

8. Organization and Administration

The inspector reviewed selected items concerning the plant staff including qualifications, job descriptions and training requirements.

23/ IE Inspection Rpt No. 050-155/75-15.

24/ IE Inspection Rpt No. 050-155/76-01.

25/ IE Inspection Rpt No. 050-155/75-05.

26/ IE Inspection Rpt No. 050-155/76-04.

27/ NRC to CPR, Ltr dtd 2/6/76.

The inspector noted that the plant is in the process of preparing formalized overall plant training and Quality Assurance training.

No discrepancies were noted.

9. Annual Report

The inspector completed the review of the annual report^{28/} submitted by Consumers Power Company in accordance with regulatory requirements.

No discrepancies were noted.

10. Plant Cleanliness

The inspector reviewed the plant established controls on cleanliness and housekeeping.

Storage and handling requirements are provided during procurement of materials and these requirements are considered during storage and use of the materials. Maintenance procedures are utilized to provide the necessary controls during plant activities. Operations Department instructions are provided (cleaning assignments) to maintain the equipment and areas clean and free of fire hazards.

A plant cleaning group maintains the general plant cleanliness.

No discrepancies were noted.

^{28/} CP to NRR, Ltr dtd 2/26/76.