

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

Region I

Report No. 50-219/78-24

Docket No. 50-219

License No. DPR-16 Priority -- Category C

Licensee: Jersey Central Power and Light Company  
Madison Avenue at Punch Bowl Road  
Morristown, New Jersey 07960

Facility Name: Oyster Creek Nuclear Generating Station

Inspection at: Forked River, New Jersey

Inspection conducted: September 19-21, 1978

Inspectors: J. C. Higgins  
J. C. Higgins, Reactor Inspector

10/3/78  
date signed

H. J. Wong  
H. J. Wong, Engineer/Intern

10/3/78  
date signed

H. H. Nicholas for  
T. Foley, Reactor Inspector

10/4/78  
date signed

D. L. Capton Chief, Nuclear Support Section  
No. 1, RO&NS Branch

10/4/78  
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Approved by: H. H. Nicholas for  
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No. 1, RO&NS Branch

Inspection Summary:

Inspection on September 19-21, 1978 (Report No. 50-219/78-24)

Areas Inspected: Routine, unannounced inspection by regional based inspectors of the containment integrated leak rate test procedure, main steam isolation valve testing, print and drawing control and a plant tour. Inspection involved 48 inspector-hours by three NRC regional based inspectors.

Results: Of the four areas inspected, no items of noncompliance were found in three areas and one item of noncompliance was found in the fourth area (infraction - failure to use controlled and up-to-date drawings, paragraph 5.a).

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## DETAILS

### 1. Persons Contacted

The below technical and supervisory personnel were contacted:

- \*J. Carroll, Station Superintendent
- R. Dube, Site QA Supervisor
- \*K. Fickiessen, Technical Engineer
- \*E. Growney, Operations Engineer
- J. Maloney, Operations Supervisor
- J. McInar, Maintenance Engineer
- \*A. Rone, Technical Supervisor
- \*D. Ross, Manager, Nuclear Generation
- \*J. Sullivan, Chief Engineer

The inspector also talked with and interviewed several members of the technical, engineering and operating staffs.

\* denotes those present at the exit interview.

### 2. Containment Integrated Leak Rate Test (CILRT)

#### a. Request for Exemption from Appendix J to 10 CFR 50 (Appendix J)

In the March 16, 1977, letter from Jersey Central Power and Light Company to the NRC (NRR), the licensee committed to submit a revised exemption request by August 1, 1977. As of September 20, 1978, the licensee had not submitted this exemption request. The licensee's representative stated that the revised exemption request would be submitted to the NRC prior to the performance of the CILRT scheduled for the present refueling outage. This item is unresolved (Item No. 319/78-24-01) pending formal submittal of the exemption request.

#### b. Procedure

The inspector reviewed Procedure No. 655.5.007, Revision 0, dated September 26, 1977, "Integrated Primary Containment Leak Rate Test", for technical adequacy and conformance with regulatory requirements. The licensee's representative stated that the procedure will be revised prior to the performance of the CILRT. The below listed items 2.b.(1) through 2.b.(10) are collectively designated as Item No. (219/78-24-02).

(1) Absolute Values

The current procedure has no provisions for calculating leakage rates using absolute values corrected for instrument error as required by Section III.A.3.c of Appendix J.

(2) Acceptance Criteria

Section V.B.3 of Appendix J specifies the requirement for analysis and interpretation of CILRT results. The inspector informed the licensee of the NRC position for the acceptance criteria for the CILRT. The corrected measured leak rate at the 95% upper confidence level must be less than  $0.75 L_a$  (or  $0.75 L_t$  for the reduced pressure test).

(3) Referenced Material

The current procedure does not contain all the referenced data sheets and attachments (e.g., 602.1-2, 3, 4, and 8).

(4) Verification Test

Currently no upper limit for the calibrated leak after the CILRT is specified. Appendix C to ANSI N45.4-1972 gives recommendations for calibrated leak.

(5) Reduced Pressure Test

The acceptance criteria,  $L_t$ , for the reduced pressure CILRT in the procedure is non-conservative in that it uses pressure in absolute units vice gage units, as specified in Sections II.I and II.J of Appendix J.

(6) Drywell Pressure Switches

The procedure currently isolates the drywell pressure switches from the containment atmosphere. This closes a potential leakage path that would be exposed under post-accident conditions. The licensee's representative stated that these switches would be electrically isolated and remain exposed to the containment atmosphere for the CILRT.

(7) Volume Changes

The procedure contained no provision for conservatively adjusting leakage rates for sump level changes that could significantly change the containment free volume and could mask CILRT leakage.

(8) Leak Repair

The procedure currently does not contain sufficient guidance for actions in the event of leakage during the CILRT that exceeds acceptance criteria. The NRC staff has established the position that a leakage path identified during the CILRT may be isolated and the CILRT continued provided that: the leakage path is locally leak rate tested before and after repair; the pre-repair leak rate is added to the CILRT results to determine the success/failure of the initial CILRT attempt; and the post-repair leak rate is added to the CILRT results to determine the final containment acceptability prior to plant startup.

(9) Computer Program

The procedure currently does not specify what information is to be recorded on the computer logger and what method of analysis is to be used. The inspector informed the licensee that the analysis method currently accepted by the NRC is the mass point technique.

(10) Reference Vessel Method

The procedure states that the reference vessel method will be utilized for reporting purposes. If this method is used, Section 7.2 of ANSI N45.4-1972 requires a leak check of the reference vessel after the CILRT. The procedure currently has provisions only for a leak check before the test.

c. Additional CILRT Items

The below listed items 2.c.(1) through 2.c.(4) will be reviewed at a future inspection. (219/78-24-07)

- (1) Final instrument calibration certifications.
- (2) Verification that outside atmospheric data is logged as required by Section 7.8 of ANSI N45.4-1972.
- (3) Review of the installed system calibration check procedure for the Volumetrics instrumentation used during the CILRT.
- (4) Verification that revised valve lineups reflect the requirements of Section III.A.1(d) of Appendix J in draining of systems where possible and venting lines outside containment to assure that the containment isolation valves are subjected to the full test differential pressure.

d. Test Pressure

10 CFR 50, Appendix J, issued in 1973, specifies that leak rate testing is normally performed at design basis accident pressure, Pa, but permits CILRT's to be performed at a reduced test pressure Pt. Current NRC policy is to urge licensees to perform all CILRT's at Pa. Oyster Creek's current TS's permit only the reduced pressure test. The licensee's representative stated that if relief from the present TS's could be obtained prior to performance of the CILRT, then the test would be performed at Pa.

3. Main Steam Isolation Valves (MSIV's)

Following the plant shutdown for refueling, the licensee conducted the required leak rate testing of the MSIV's and determined that leakage through both valves in the A main steam line exceeded La, the maximum allowable leak rate for primary containment. During the inspection the licensee made several attempts to quantify the leakage, with a best estimate of 1400 SCFH at 3 psig (La is 419 SCFH at 35 psig). The licensee also instrumented the valves to measure stroke displacement versus time for later analysis and planned to examine the valve internals, when they were removed for repair. The inspector reviewed the leakage testing records

from 1973 through the present for the MSIV's and noted that on three previous occasions leakage had exceeded TS limits, thus, requiring valve repair. The licensee has reported this incident via a prompt report (RO No. 50-219/78-18-1P). The inspector had no further questions at this time.

4. Demineralized Water System

The inspector noted that valve V-12-60 is specified to be open by Procedure No. 320.1 for plant startup and by Drawing #2004-2 during normal plant operation. Valve V-12-60 is the first valve outside containment and should be normally closed for containment isolation purposes. The licensee's representative stated that the valve was normally kept in the closed position. This item is unresolved pending revision of the procedure and drawing (Item No. 219/78-24-03).

5. Drawing Control

a. Control Room Drawings

The inspector reviewed the book of control room drawings, and discussed the usage of these drawings with various control room operators, shift foremen and the Operations Engineer. All persons stated that these drawings were the only set of prints or drawings currently available to the operators in the control room for operation of the plant. The various operators interviewed also stated that this was the set of prints currently being used for operation of the plant. The inspector noted that no system existed for updating the book of prints with new revisions when issued. The Operations Engineer confirmed that no such system currently existed, but stated that in the future, when new microfilm readers were purchased and placed in the control room, operators would have access to the latest microfilm copies of drawings. On a sampling basis, the inspector compared the revisions of drawings in the control room book to drawings in the Document Center with the following results:

Drawing BR 3004 was Revision 13 vice Revision 14;

Drawing 2013 was Revision 4 vice Revision 5; and,

Drawing GE 237 E726 was Revision 7 vice Revision 10.

These systems included the Drywell and Suppression Chamber, the Primary Containment (Penetration for Containment Air and Instrument Nitrogen for MSIV control), Reactor Protection System Instrumentation, and the Core Spray System - all on the Quality Assurance Systems List (QASL). Thus, contrary to 10 CFR 50, Appendix B, Criterion VI, JCP&L Operational QA Plan, Paragraph X.1.K and Procedure 2009, Sections 1.0 and 6.1, the set of drawings used in the control room for operation of systems on the QASL was not controlled and was not up-to-date as of September 20, 1978. This is an item of noncompliance. (219/78-24-04)

b. Delays in Revising Drawings

JCP&L Operational QA Plan Section X.1.I states that the Manager-Generation, Administration is responsible for establishing a system for maintaining drawings and specifications in a current status. The licensee's system utilizes Document Change Request (DCR) Forms to initiate action to update prints. The inspector noted that plant modifications performed during the summer, 1977, outage had not yet been reflected in new prints, even though DCR forms had been submitted (e.g., removal of Feedwater 1 inch Bypass Line DCR was submitted August 4, 1977). This delay in processing DCR's and obtaining new prints results in drawings not being current for a considerable period of time and is unresolved. (219/78-24-05)

c. Modification Packages

The inspector questioned whether all pertinent drawings had been updated after various plant modifications were performed and asked to review the following modification packages. The licensee's representative stated that the packages were kept at the corporate offices but would be forwarded to the site for future review.

- Modification to steam flow and steam pressure transmitter sensing lines (reported in Semi-Annual Report #10-1974).
- Modification to reactor drain line (reported in Semi-Annual Report #12-1975).

Additionally, it appeared that print GE 237E726 did not include the modifications ET-133-75 and 154-75 (reflected in Revision 5 to Drawing BR 2013). This item is unresolved pending review to determine if modifications are properly being reflected in updated drawings. (Item No. 219/78-24-06)

d. Drawing Index

Procedure No. 2009, step 6.5 states that the Drawing Index will be controlled document to ensure the use of up-to-date drawings and that a general revision will be issued yearly. The last revision was issued May 25, 1976. The licensee had identified this in December, 1977, in his internal audit 77-31. The NRC designated the item No. 219/78-04-04 in January, 1978. The inspector noted that as of September 20, 1978, a new revision still had not been issued. The licensee's representative stated that they were attempting to obtain a revision as soon as possible. This item remains unresolved and will be reviewed again during a subsequent inspection.

6. Plant Tour

The inspector conducted several tours of the licensee's facility to observe general working conditions, cleanliness, radiological controls, plant staffing and equipment condition. Areas toured included the Reactor Building and the Control Room. No items of noncompliance were identified.

7. Unresolved Items

Items about which more information is required to determine acceptability are considered unresolved. Paragraphs 2.a, 2.b, 4, 5.b, 5.c and 5.d of this report contain unresolved items.

8. Exit Interview

At the inspection's end, the inspectors held a meeting (see Detail 1 for attendees) to discuss the inspection scope and findings. The Item of Noncompliance and unresolved items were identified.