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

REGION I

Report No. 50-219/80-22

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: June 2-6, 1980

Inspectors: W. A. Rekito, Reactor Inspector — 7/28/80 date

date

date

Approved by: D. L. Caphton, Chief, Nuclear Support Section No. 1, RO&NS Branch — 7/29/80 date

Inspection Summary:
Inspection on June 2-6, 1980 (Report Number 50-219/80-22)
Areas Inspected: Routine, unannounced inspection of licensee action on previous inspection findings; surveillance of pipe support and restraint systems; and, witnessing the Primary Containment Integrated Leak Rate Test. The inspection involved 41 inspector-hours on site by one NRC regional based inspector.
Results: No items of noncompliance were identified.

Region I Form 12
(Rev. April 1977)

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DETAILS

1. Persons Contacted

M. Budaj, Technical Engineer
J. Carroll, Station Superintendent
K. Fickeissen, Technical Superintendent
E. Growney, Assistant to Station Superintendent
J. Molnar, Technical Supervisor
R. Thompson, Technical Engineer
R. Smith, Mechanical Engineer

The inspector also talked with and interviewed other licensee personnel during the inspection including members of the technical, operations and maintenance staffs.

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (219/77-09-04): Hydraulic Snubber Test Machine. The inspector observed the licensee's new Bergen-Paterson Hydraulic Test Stand and verified its capability to demonstrate snubber compliance with Technical Specifications. This machine is being used for the 1980 surveillance program. This item is considered resolved.

(Closed) Unresolved Item (219/78-06-04): Snubber piston positions found out of prescribed range (3-5 inches) during visual surveillance inspection in January 1978. The inspector reviewed an engineering evaluation, Task #288-78, dated January 16, 1979 which provided justification for all but two of the identified snubbers to be acceptable out of the prescribed position range. The two remaining snubbers were modified according to Job Order 2752M, dated March 5, 1979. The above resolutions appeared acceptable. This item is considered resolved.

(Closed) Noncompliance (219/78-22-01): Two hydraulic snubbers not inspected. The inspector reviewed records of visual inspections performed on September 14, 1978 for the subject two Core Spray System snubbers. Also reviewed was Engineering Request No. M79-072 used to relocate these two snubbers to the outside of the Filter Sludge Room. The inspector reviewed visual inspection results dated June 28, 1979 and verified that the licensee is inspecting the accessible safety-related snubbers at the frequency required by TS 4.5.Q.1. The inspector had no further questions regarding the licensee's corrective action taken on this item.

(Closed) Noncompliance (219/78-22-02): Failure to follow procedures. The inspector reviewed records of the eleven snubbers inspected on September 8, 1978 to verify that oil levels were restored to within the tolerance specified by procedure 775.1.003. This procedure was replaced with Procedure No. 675.1.001 which allows a greater tolerance for accumulator oil level, as permitted by the vendor's specifications.

Other snubber visual inspection records dated June 28, 1979 were reviewed to verify conformance with procedural requirements. The inspector also interviewed the engineer assigned to direct the implementation of the snubber inspection program. Based upon these findings the inspector had no further questions regarding the licensee's corrective actions taken on this item.

(Closed) Noncompliance (219/78-06-02): Failure to follow snubber inspection procedure. This item is closed based upon the inspector's review of the corrective action taken regarding item (219/78-22-02).

(Closed) Unresolved Item (219/78-34-01): The Primary Containment Leak Rate Test (PCLRT) Procedure 666.5.007, Revision 1, was approved on May 16, 1980. The procedure included provisions for instrument weighting factors and administrative controls of the licensee's computer program. This item is resolved.

(Closed) Unresolved Item (219/79-08-02): The licensee revised the Drywell Airlock Leak Test Procedure 665.5.005, to measure the airlock temperature and correct the pressure for temperature changes during the test. This revised procedure was implemented June 4, 1980. This item is resolved.

(Closed) Unresolved Item (219/80-10-03): PCLRT Procedure 666.5.007, Revision 1, corrected the valve lineups for the four penetrations identified. The inspector checked several other system valve lineups in the procedure and identified no unacceptable conditions. This item is considered resolved.

(Closed) Unresolved Item (219/80-10-06): The licensee performed local leak rate tests on the two outboard Feedwater Containment Isolation Valves (Nos. V-2-71 and V-2-72) using procedure 665.5.004, Revision 1. The licensee's representative stated that testing of these valves would be continued as part of the local leak rate test program. This item is considered resolved.

(Closed) Inspector Follow Item (219/80-10-07): The licensee performed local leak rate tests on the Instrument Air and Nitrogen system containment isolation valves (Nos. V-6-393 and V-6-395) using procedure 665.5.006, Revision 2. This item is closed.

(Open) Unresolved Item (219/80-10-04): Leak Rate Testing Modifications. The licensee's representative did not know the status of the remaining proposed modifications but stated that the Engineering and Licensing Departments were working on this matter and would submit a plan (schedule) for completion of modifications to achieve greater conformance with 10 CFR 50, Appendix J. This item will remain open pending further NRC review of the licensee's plan (schedule) for completion of modifications.

(Open) Unresolved Item (219/80-10-05): Local Leak Rate Test Procedure Acceptance Criteria. Procedure 665.5.006 had not been revised to include all applicable acceptable criteria. The licensee's representative explained his intentions to prepare a special procedure for test results evaluation and acceptance criteria. This item will remain open pending issuance of the approved procedure.

3. Surveillance of Pipe Support and Restraint Systems

a. Documents Reviewed

The inspector reviewed the following procedures and records relating to pipe support and restraint surveillances for compliance with regulatory requirements.

-- Procedure 675.1.001, Revision 7, dated May 6, 1980, "Inspection of Bergen-Paterson Hydraulic Snubbers," with records from 1979.

-- Procedure 675.1.002, Revision 0, dated February 2, 1979, "Testing B-P Hydraulic Sway and Suppressors Using Grinnell Machine," with records from 1979.

-- Procedure 775.1.005, Revision 1, dated February 29, 1980, "Functional Testing of B-P Hydraulic Snubbers," with records from 1979.

-- Procedure 775.1.006, Revision 1, dated November 16, 1978, "Inspection and Testing of Pacific Scientific Mechanical Snubbers, Type PSA-10," with records from 1979.

-- Procedure 775.1.004, Revision 3, "Replacement of B-P Hydraulic Snubbers."

-- Procedure 116, Revision 6, dated January 8, 1980, "Surveillance Test Program Schedule and Review of Test Results."

The inspector noted that the 1979 surveillance program resulted in one TS Hydraulic Snubber (#470904) being found inoperable on May 18, 1979. This was reported in LER 79-18 and causes the licensee to be on a current 12 month visual inspection interval per TS requirements.

With the exception of the items listed below the inspector identified no unacceptable conditions.

(1) During the surveillance record review, the inspector recognized that hydraulic snubbers which were found to not meet the visual inspection acceptance criteria were replaced and then functionally tested to determine operability. The inspector questioned the licensee's representative about administrative controls established

to assure this practice is carried out properly. The licensee's representative satisfied the inspector's concern by revising procedure 675.1.001 to include instructions for determining operability by performing functional tests.

(2) The inspector questioned the licensee's representative about procedural or administrative controls to track snubbers found inoperable during periods other than scheduled surveillance activities. The licensee's representative satisfied the inspector's concern by revising procedure 775.1.004 to include instructions for documenting snubbers replaced or found inoperable to assure these results are evaluated when determining the next TS required visual inspection interval.

(3) The inspector noted that the functional testing procedure 775.1.005 did not include bleed rates as part of the acceptance criteria. The licensee's representative corrected the matter by revising the procedure to specify the minimum acceptable bleed rates recommended by the manufacturer.

(4) Temperature Effect: The inspector reviewed functional testing procedure 775.1.005 regarding whether or not the established acceptance criteria for lock-up and bleed rate velocities would account for the difference in temperature between operating and testing conditions. The licensee's representative recognized the effect of temperature changes on the viscosity of the snubber hydraulic fluid and the performance characteristics of the snubber. An Engineering Request No. M80-31, dated June 1980 was initiated to perform an evaluation of the procedure acceptance criteria to assure that the design specification requirements for the specific operating environment (temperature) are met. This engineering evaluation is scheduled to be completed by September 1980. This item is unresolved pending review of the licensee's evaluation (219/80-22-01).

(b) Observations

The inspector, accompanied by a licensee's representative, toured the areas of the Reactor Building to observe the general condition of snubbers and pipe support components. The inspector also examined selected components in the Core Spray, Containment Spray and Shutdown Cooling Systems for the following conditions:

-- proper accumulator hydraulic fluid level;
-- snubber piston position at correct setting;
-- components were not in a "lock-up" or "frozen" position;
-- no visible signs of fluid leaks;

-- no observable deterioration or corrosion;
-- lubricants were applied where required;
-- support plates, extension rods and connecting points were not bent, deformed or loose; and,
-- spring hanger indicators were at the appropriate "hot" or "cold" setting.

The inspector identified no unacceptable conditions during this tour.

4. Primary Containment Integrated Leak Rate Test (PCILRT)

a. General

On June 3-14, 1980, the Oyster Creek Nuclear Generating Station performed a PCILRT as required by TS 4.5.D. The test was performed in accordance with procedure 666.5.007, Revision 1, dated May 6, 1980. The inspector reviewed the test procedure, witnessed preparations and various portions of the test. Details of the test are discussed below. (Note: Events of the test following June 6, 1980 were not witnessed by the inspector and the final results presented here are as reported by the licensee on June 16, 1980).

b. Instrumentation

The inspector reviewed the calibration records for resistant temperature detectors, dew point instruments, pressure detectors and verification test flow meters. Their calibration prior to the PCILRT were found to meet applicable accuracy requirements and were traceable to the National Bureau of Standards. No items of noncompliance were identified.

c. Inspection Tours

The inspector conducted inspection tours independently and with licensee personnel both before and during the PCILRT. During these tours, test boundaries were surveyed for evidence of leakage and on a sampling basis, selected valves were verified to be in the correct positions according to the procedure requirements.

During one of these tours at 2:30 p.m. on June 5, 1980, an air leak was identified at the Air Particulate Monitor Cabinet. Initial corrective action was to isolate the leak using local manual valves. Investigation revealed that the sample pump seals were damaged by the test pressure. Further investigation revealed that the solenoid operated containment isolation valves (CIVs)[V-38-9, 10, 11 and 12] were not closed as required. The licensee's representative explained

that these valves (without position indication) are operated only from the Drywell Isolation Signal which had been jumpered as part of the test requirement. The CIVs were closed by de-energizing the solenoids which simulated a Drywell Isolation Signal. The manual isolation valves were then opened and the test continued. This event was properly documented in the test abnormal events log and an appropriate procedure revision was implemented. No items of noncompliance were identified and the inspector had no further questions in this area.

d. Chronology

June 3	1600	Performed reference vessel leak check at pressure of 37 psia
June 4	1100	Completed instrumentation calibration checks
June 5	0435	Commenced pressurizing the containment
	1130	Completed pressurization at test pressure (P_t) of 37 psia
	1420	Discovered air leak in the Containment Particulate Monitor Cabinet
	1900	Discovered air leakage at the drywell head manhole cover
	2300	Discovered air leakage past drywell vent and purge valves
June 6	0200	Commenced depressurization
	----	Replaced the drywell manhole cover gaskets and performed local leak rate test using procedure 665.5.006
	----	Adjusted linkage on drywell vent and purge valves

Note - Remainder of events not witnessed by the inspector.

	1915	Commenced pressurizing the containment in second attempt of PCILRT

June 7	0400	Completed pressurization and commenced 4 hour temperature stabilization period
	1215	Preliminary calculations indicated leak rate in excess of allowable limits. Inspections for leakage paths continued
June 8	----	Discovered and repaired several small valve packing leaks
June 9	0100	Discovered drywell head seal leaking
	0230	Commenced depressurization
June 12	1330	Completed re-installation of the drywell head with new O-ring seals
	1400	Completed local leak rate test of drywell head seals using procedure 665.5.006
	1445	Commenced pressurizing the containment in third attempt of PCILRT
	2200	Completed pressurization and commenced 4 hour temperature stabilization period
June 13	0225	Start of 24 hour test period data collection
June 14	0225	Completed 24 hour PCILRT
	0355	Commenced 6 hour verification test with an induced leakage rate of 1.5 standard cubic feet per minute SCFM
	0955	Completed 6 hour verification test and commenced depressurization of the containment

e. PCILRT Results

(1) Initial Attempt

At 2330 hours on June 5, 1980, the licensee's representative informed the inspector that the initial attempt of the PCILRT was considered a failure. This decision was based on the leakage rate being in excess of the acceptance criteria and the discovery of leakage paths at the drywell manhole cover and vent and purge valves which they intended to repair before attempting the test again.

(2) Successful Test (Results reported by licensee)

After repairs of identified leaks and re-installation of the drywell head, the containment was pressurized and a successful test run from 0225 on June 13, 1980 to 0225 on June 14, 1980. Preliminary calculations indicated the leak rate at the 95% upper confidence interval to be 0.141 weight percent per day. The test acceptance criteria is 0.567 weight percent per day.

The inspector identified no items of noncompliance and had no further questions in this area.

f. Future PCILRT Schedule

Paragraph III.A.6.(b) of 10 CFR 50, Appendix J, states that if two consecutive periodic type A tests (PCILRT) fail to meet the acceptance criteria then tests shall be performed at each refueling, not to exceed 18 months, until two consecutive periodic tests meet the acceptance criteria. The inspector noted the initial attempt of the 1978 and 1980 PCILRT(s) at Oyster Creek failed to meet the acceptance criteria and that the licensee was therefore subject to the increased frequency of tests as described above. The licensee agreed that this was correct and stated that he would submit plans for future test schedules in his PCILRT Report.

5. Plant Tour

The inspector walked through various areas of the plant to observe operations and activities in progress, implementation of radiological controls, and the general condition of safety-related equipment.

During this tour, the inspector noted that many of the primary containment electrical penetrations pressure indicators were reading very low. Examples are:

Penetration #	Pressure (PSIG)
8	2
10	20
12	7
18	25
21	10
22	10
23	10
27	2
30	2

Local leak rate test procedure 665.5.003, requires that these penetration assemblies be left pressurized with nitrogen at 35 psig following their test. The inspector reviewed the local leak rate test records and determined that all electric penetrations were last tested in January 1980 with leakage rates being well within the acceptance criteria. The inspector questioned the licensee's representative about: (1) the state of these safety-related penetration assemblies; (2) applicable requirements to have them pressurized; and, (3) administrative controls in effect to meet the requirements. The licensee's representative was not aware of any specific requirement to maintain them pressurized and stated there were no controls for this other than the periodic (approximately 18 month) local leak rate tests. He further stated that an engineering evaluation would be conducted to determine the applicable requirements and appropriate administrative controls implemented within two months. In addition, the state of each penetration assembly would be reviewed and all pressurized with nitrogen to 35 psig prior to the next plant startup. This item is unresolved pending review of licensee's actions (219/80-22-02).

6. Unresolved Items

Items about which more information is required to determine acceptability are considered unresolved. Paragraphs 2, 3.a and 5 of this report contain unresolved items.

7. Exit Interview

The inspector met with the Station Superintendent at the conclusion of the inspection on June 6, 1980. The inspector summarized the scope and findings of the inspection at that time and during a subsequent telephone conversation on June 17, 1980.

Regarding the two unresolved items of paragraphs 3.a and 5, the Station Superintendent confirmed the commitments as described in the report.

Regarding the results of the PCILRT, the Station Superintendent confirmed the initial test failure and acknowledged the requirement regarding increased frequency of tests.