

U. S. ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION I

CO Inspection Report No. 50-219/71-04

Subject: Jersey Central Power & Light Company

Oyster Creek 1

License No. DPR-21

Location: Forked River, New Jersey

Priority

Category C

Type of Licensee: GE 1690 Mwt BWR

Type of Inspection: Special, Announced

Dates of Inspection: November 5, 1971

Dates of Previous Inspection: October 7 & 8, 1971

Principal Inspector: Talbert Young, Jr.
T. Young, Jr., Reactor Inspector

12/13/71
Date

Accompanying Inspectors: None

Date

Date

Other Accompanying Personnel: None

Date

Reviewed By: R. L. Spessard
R. L. Spessard, Reactor Inspector

12/13/71
Date

Proprietary Information: None

Section I

Enforcement Action: None

Licensee Action on Previously Identified Enforcement Matters: Not inspected

Unresolved Items:

- A. Quality assurance documentation for relief valve No. NR108E and results of flow capacity test. (Paragraph 3)
- B. Quality assurance documentation for new valves installed in the core spray system (CSS), isolation condenser piping (ICP) and poison system (PS). (Paragraphs 4 and 5)

Status of Previously Reported Unresolved Items:

A. Drywell Compressed Nitrogen System (NCS)

JCP&L has installed two filters in the NCS piping downstream of the compressors to remove possible contaminants which could enter the instrument air system loads within the drywell. This item is considered closed.

B. Containment Isolation Valves for the Drywell and Torus Oxygen Sampling Lines

JCP&L has installed double isolation valves in both the drywell and torus oxygen sampling lines. This item is considered closed.

C. Stack Monitor

JCP&L was installing a new isokinetic probe at the 156 ft. elevation of the stack along with a new I-beam support structure (Inquiry Report No. 50-219/71-04). The completed installation and testing results for this probe will be reviewed during a future CO inspection.

Unusual Occurrences: None

Persons Contacted:

T. McCluskey, Station Superintendent
D. Ross, Technical Supervisor
J. Sullivan, Assistant Technical Supervisor
E. Riggle, Maintenance Supervisor
N. Goodenough, GPU, QA Engineer

Management Interview:

The following subjects were discussed with Mr. Ross on November 5, 1971:

- A. The inspector stated that he had observed that the fifth relief valve was installed and its discharge was piped below the water level in the torus. The inspector stated that a review of site documentation showed that the setpoint of this valve had been set at 1125 psig (same as the other four valves), and that this information would be reported to DRL. (Paragraph 3)
- B. The inspector stated that QA documentation for the fifth relief valve and the new valves installed in the CSS, ICP and PS would be reviewed during the next CO inspection. Mr. Ross stated that QA documentation for these valves would be available. (Paragraphs 3, 4 and 5)
- C. Mr. Ross stated that before the next outage, a tool would be designed and fabricated to re-install the specimen holder. (Paragraph 6)
- D. Mr. Ross was informed that no items of noncompliance were observed.

Section II

Additional Subjects Inspected, Not Identified in Section I, Where No Deficiencies or Unresolved Items were Found

1. General

A special inspection was conducted to insure that the fifth relief valve had been installed, that its discharge had been piped below the water level in the torus and that its relief setpoint had been set at the same value as the other four relief valves. Installation of this valve was required as part of the licensee's application to increase steady state power level up to 1930 Mwt.

2. Facility Procedures

- a. Test procedure for relief valve No. NR108E.
- b. Functional test procedure for relief valve No. NR108E.
- c. Setpoint adjustment procedure.

Details of Subjects Discussed in Section I

3. Relief Valve No. NR108E Installation

The inspector observed that the fifth relief valve was installed and that the five relief valves were identical per name plate data. The discharge of the fifth valve is piped to one of the two existing down comers which connects to the vent header in the air space of the torus. Therefore, any flow from this valve will discharge below the water level of the torus. Site records disclosed that the relief setpoint for this valve was set at 1125 psig (same setpoint as the other four relief valves). QA documentation for the valve installation had not been assembled and will be reviewed during the next CO inspection. (See Item B of Management Interview.)

The flow capacity of this valve will be checked after plant startup and the results will be reviewed at the time of the next inspection.

4. CSS Check and ICP Block Valves

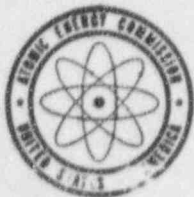
The inspector observed that the subject valves were welded into their respective systems, but that the valve certifications, the welder's qualifications and nondestructive testing results were unavailable. (See Item B of Management Interview.)

5. PS Valves

Mr. Ross informed the inspector that two valves had been installed in the poison system, but that the QA documentation for these valves had not been assembled. The inspector stated that installation of these valves and their QA records would be reviewed during the next inspection. (See Item B of Management Interview.)

6. Removal of Flux Wire Holder

Mr. Ross informed the inspector that the flux wire holder was scheduled to be removed on this outage, but it was discovered that the flux wire holder was welded to the specimen holder which is latched to the inner wall of the pressure vessel (PV). (The specimen holder containing tensile and impact samples was to remain in the PV for four years.) After both holders had been removed and cut apart, it was discovered that the specimen holder could not be re-installed with the tools existing at the site. There are still two specimen holders remaining in the PV. (See Item C of Management Interview.)



UNITED STATES
ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION I
970 BROAD STREET
NEWARK, NEW JERSEY 07102

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DEC 13 1971

G. L. Madsen, Acting Senior Reactor Inspector
Division of Compliance, Region I

CO INSPECTION REPORT NO. 50-219/71-04
JERSEY CENTRAL POWER & LIGHT COMPANY
OYSTER CREEK 1-BWR

I am satisfied that the fifth relief valve has been installed, that the discharge has been piped below the water level in the torus and that the setpoint was set (and tested) so that it is identical to the other four relief valves.

The valve certifications (QA folder) will be reviewed by Floyd on his next inspection.

T. Young Jr.
T. Young
Reactor Inspector

U. S. ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION I

Field Notes for:

CO Inspection Report No. 50-219/71-04

Subject: Jersey Central Power & Light Co.
Oyster Creek 1

Location: Forked River N.J.

License No. DPR-16

Priority _____

Category C

Type of License: ~~BWR~~ GE ¹⁶⁹⁰ ~~1955~~ mwt, BWR

Type of Inspection: Special, Announced

Dates of Inspection: November 5, 1971

Dates of Previous Inspection: October 7/8, 1971

Principal Inspector: _____
T. Youngs Jr

Nov 10, 71
Date

Accompanying Inspectors: None

Date

Other Accompanying Personnel: None

Date

Reviewed By: _____

Date

Proprietary Information: _____

Date

A. Persons Contacted:

1. McCuskey, Station Superintendent
2. Ross, Technical Supervisor
3. E. Riggle, Maintenance Supervisor
4. J. Sullivan, Assistant Technical Engineer
5. N. Goodenough, GPU, QA Engineer

B. Facility Procedures:

1. Test procedure for relief valve #NR108E. The purpose of this procedure is to a) demonstrate the operability of the valve, b) determine the capacity of the valve and c) demonstrate the seat tightness of the valve. The sections of the procedure are, the purpose, a description of the criteria, the installation instruction, initial conditions and the actual procedure for flow capacity.

2. Procedure for functional testing of the valve and the records of the test. The high pressure switch was set at 11.25^{PSI} with 12[#] correction for ^{the} 1.14 water column in ^{the} line above ^{the} pressure switch.

The low pressure switch was set at 1091 psi again with the 12 psi correction factor. The setpoints were checked by attaching liquid pressure to the controller and observing the actuation value. The pressure was then bled off to observe the actuation value of the reset point.

C. Experiments and tests

Functional test of valve NR108E as per procedure (see B2 above for results) was conducted in summer 1, 1971

D. Facility Modifications

1. The inspector physically observed that the fifth relief ^{valve} was installed or batted in place, and that the five ~~of~~ valves were ~~identical~~ ^{identical}. The exhaust of the fifth valve is piped to one of the two existing downcomers which connects to the vent header in ^{the} rain space of the tower and ^{thus to} the downcomer.

Pipes, from the vent header discharging below the water level of the suppression pool.

Description of relief valve NR108E

6" x 8" Consolidated Electromatic relief valve of vertical exhaust design with carbon steel base, stainless steel trim, min blow-down adjustment to 1% of the set pressure, furnished with solenoid for 125 VDC operation.

Max press 1500 psig

Max temp 750°F

Inlet flanged 6" 1500# ANSI, Large torque

Outlet " 8" 300# ANSI, Raised face

Set press 1117 psig @ 552°F (saturated)

Relieving capacity 645,000#/hr. each
using full bore of 3.860"

Total relieving capacity 1,290,000#/hr

Disc Material ASTM 565 Grade 6/6 of thermadisc design. This value is

identical to the other four installed
relief valves.

2. Core Spray System (CSS): ^(air)
The CSS check valves ~~1~~ were observed to be installed and welded in place. (Carbon steel)
3. Isolation Condenser piping (ICP)
The ICP drain line valves ~~8~~ (eight, two on each drain line) were observed to be installed and welded in place. (Stainless steel)
4. Mr Ross stated at the ~~exit~~ exit interview that two Powell valves had been installed in the Paison system piping.
5. The inspector requested to review the Valve certifications, the procedures for welding, the welder's qualifications and the non-destructive testing records but they were unavailable. Mr Good enough stated that he was in the process of pulling a QA folder together, and all of this information would be

available the week of 8th of November 1971.
The inspector stated that this
QA folder would be reviewed at
the time of the next inspection.

E. Miscellaneous

1. Mr. Ross stated that the flux wire
holder was to be removed on this
outage but it was discovered that the
flux wire holder was welded to the
specimen holder which is latched
to the interwall of the pressure
vessel. ^(PV) (The specimen holder containing
tensile and impact samples ~~was~~
to remain in the PV for four
years.) Both holders were removed
and cut apart, it was then discovered
that the specimen holder could
not be reinstalled with the tools
existing at the site. Mr. Ross
stated that before the next outage
a tool would be designed and
fabricated to re-install the
specimen holder.

2. Nitrogen Compressor System (NCS)
~~Other~~ Two filters have been added to the NCS piping downstream of the compressors. This system provides instrument air to the Drywell.

3. A new isokinetic probe is being installed at the 156 ft ~~stack~~ elevation of the stack along with a new I-beam. The inspector did not ~~not~~ observe this work area.
(Probe to be identical to the one removed)

F. Containment:

Double isolation valves ~~was~~ were observed to have been installed in the Oxygen analyzer piping.

NOV 26 1971

R. T. Carlson, Acting Chief, Reactor Testing & Operations Br.
Division of Compliance, HQ

CO INQUIRY REPORT NO. 50-219/71-12
JERSEY CENTRAL POWER & LIGHT COMPANY
OYSTER CREEK 1 - BWR
COMPLETE LOSS OF INSTRUMENT AIR

71-05

The subject inquiry report is forwarded for your action.

This failure demonstrates how a single failure can cause a complete loss of instrument air at this facility. This event warrants a review by DRL relative to the need for the installation of check valves in the air compressor discharge lines. Additionally, consideration should be given to requiring automatic scram protection for loss of instrument air pressure, to prevent recurrence of random rod scrambling at boiling water reactors.

The licensee stated that he would make a written report of the failure to DRL, however, he had not decided whether the report would be a 10 day report or an information report.

G. L. Madsen
Acting Sr. Reactor Inspector

Enclosure:
Subject Inquiry Report

- cc: E. G. Case, DRS (3)
- R. S. Boyd, DRL (2)
- R. C. DeYoung, DRL (2)
- D. J. Skovholt, DRL (3)
- H. R. Denton, DRS (2)
- A. Giambusso, CO
- L. Kornblith, CO
- R. H. Engelken, CO
- Regional Directors, CO
- DR Central Files

B/400

OFFICE ▶	CO				
SURNAME ▶	Cantrell:smg	Madsen			
DATE ▶	11/26/71				

8304270205 Lp.

CO Inquiry Report No. 50-219/71-12

Subject: Jersey Central Power & Light Company

License No.: DPR-16

Facility: Oyster Creek 1

Title: Complete Loss of Instrument Air

Prepared by: _____

F. S. Cantrell, Reactor Inspector

_____ Date

A. Date & Manner AEC was Informed:

By telephone call from Mr. T. McCluskey, Station Superintendent, November 17, 1971. Further details were obtained during a special site inspection on November 19, 1971.

B. Description of Particular Event or Circumstance:

While operating at 1400 MWt on November 16, 1971, the 6" flexible connection in the line between the discharge of one of the instrument air compressors and the air receiver, ruptured catastrophically. This line is not equipped with a check valve and the standby compressor was not capable of maintaining air pressure. The control room operator received an alarm "air receiver low pressure" and "control rod drive low air pressure". The operator observed that some control rods were scrambling individually and that air pressure was dropping. He initiated a manual scram. (The emergency procedure specifies 50 psi as the pressure at which the operator should initiate a manual scram.) The failed section of pipe was isolated and the standby air compressor recharged the system to > 50 psi in approximately 20 minutes.

C. Action by Licensee:

A replacement flexible connection was obtained and installed prior to the return to power. The connection was fabricated with a double reinforcement braid instead of the original single braid in order to minimize the possibility of future blowouts. The licensee is considering installing check valves in the compressor discharge lines.

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Lp.

NOV 26 1971

R. T. Carlson, Acting Chief, Reactor Testing & Operations Br.
Division of Compliance, HQ

CO INQUIRY REPORT NO. 50-219/71-11
JERSEY CENTRAL POWER & LIGHT COMPANY
OYSTER CREEK 1 - BWR
FAILURE OF MAIN STEAM ISOLATION VALVE TO CLOSE

The subject inquiry report is forwarded for your action. This failure may be generic in nature in that two of four valves examined had the same defect.

The subject valves are 24" Atwood Morrill valves with a Hydro-Line Manufacturing Company valve operator, Model 612-003-1B, complete with hydraulic dash pot (Model N2K, 6" bore x 13" stroke).

It is recommended that all licensee's be required to evaluate their MSIVs in light of the above experience to determine if the valves in their facilities are subject to the same failure. Other BWR licensees in Region I have been notified of this failure. We will keep you informed of further developments.

G. L. Madsen
Acting Sr. Reactor Inspector

Enclosure:
Subject Inquiry Report

cc: E. G. Case, DRS (3)
R. S. Boyd, DRL (2)
R. C. DeYoung, DRL (2)
D. J. Skovholt, DRL (3)
H. R. Denton, DRS (2)
A. Giambusso, CO
L. Kornblith, CO
R. H. Engelken, CO
Regional Directors, CO
DR Central Files

OFFICE ▶	CO				
SURNAME ▶	<i>sm</i> Cantrell:smg	<i>LM</i> Madsen			
DATE ▶	11/26/71				

CO Inquiry Report No. 50-219/71-11

Subject: Jersey Central Power & Light Company

License No.: DFR-16

Facility: Oyster Creek 1

Title: Failure of Main Steam Isolation Valve (MSIV) to Close

Prepared by: F. S. Cantrell, Reactor Inspector

Date

A. Date & Manner AEC was Informed:

By telephone call from Mr. T. McCluskey, Station Superintendent, November 17, 1971. Further details were obtained in a field inspection on November 19, 1971.

B. Description of Particular Event or Circumstance:

While measuring the closing time prior to a reactor startup, one MSIV failed to close. The failure to close was caused by interference between a segment of the "cushion spud" and the body of the hydraulic dash pot.

C. Action by Licensee:

An inspection of the other MSIVs showed that one other "cushion spud" was cracked, however, valve operation had not been impaired. The defective "cushion spuds" were replaced with pieces fabricated to the original specifications and all of the MSIVs (4) were re-tested satisfactorily. The licensee stated that he would make a written report of the MSIV failure with his evaluation of the cause of the failure, within ten days as required by his license. The licensee stated that the manufacturer reported that this was the first reported failure of the cushion spud.

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NOV 26 1971

R. T. Carlson, Acting Chief, Reactor Testing & Operations Br.
Division of Compliance, HQ

CO INQUIRY REPORT NO. 50-219/71-10
JERSEY CENTRAL POWER & LIGHT COMPANY
OYSTER CREEK 1 - BWR
ISOLATION CONDENSER CONDENSATE VALVE FAILURE

The subject inquiry report is forwarded for your information.

A subsequent site inspection disclosed an item of noncompliance in that the reactor was made critical and reactor pressure was increased to 800 psi for control rod testing with one isolation condenser inoperable. Power operation is permitted for seven days with one isolation condenser inoperable; however, both are required for startup. It appeared from discussions with Mr. Carroll, Operations Supervisor, that the reactor was at approximately 10 MWt and approximately 800 psi when he realized that both isolation condensers were required for startup. A decision was made to complete the control rod testing before going to cold shutdown. This was identified to the licensee as an item of noncompliance with their Technical Specifications.

G. L. Madsen
Acting Sr. Reactor Inspector

Enclosure:
Subject Inquiry Report

- cc: E. G. Case, DRS (3)
- R. S. Boyd, DRL (2)
- R. C. DeYoung, DRL (2)
- D. J. Skovholt, DRL (3)
- H. R. Denton, DRS (2)
- A. Giambusso, CO
- L. Kornblith, CO
- R. H. Engelken, CO
- Regional Directors, CO
- DB Central Files

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OFFICE ▶	CO				
SURNAME ▶	Carlson <i>sm</i>	Madsen			
DATE ▶	11/23/71				

CO Inquiry Report No. 50-219/71-10

Subject: Jersey Central Power & Light Company

License No.: DPR-16

Facility: Oyster Creek 1

Title: Isolation Condenser Condensate Valve Failure

Prepared by: F. S. Cantrell, Reactor Inspector

Date

A. Date & Manner AEC was Informed:

By telephone call from Mr. T. McCluskey, Station Superintendent, November 19, 1971. Further details were obtained in a field inspection the same day.

B. Description of Particular Event or Circumstance:

The isolation condensers are set up with only the DC motor operated valve closed in order to permit activation without depending on AC power. While testing the systems with the reactor shutdown on November 17, 1971, the DC operated valve on the B condenser would not open. Investigation showed that the motor was shorted out.

C. Action by Licensee:

The motor was returned to the vendor to be rewound, was re-installed and tested satisfactorily before the reactor was returned to power. The licensee plans to make a written report of this failure to the Commission within 10 days.

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