

U. S. ATOMIC ENERGY COMMISSION

DIRECTORATE OF REGULATORY OPERATIONS

REGION I

RO Inspection Report No.: 50-219/74-03 Docket No.: 50-219  
Licensee: Jersey Central Power & Light Company License No.: DPR-16  
Madison Avenue at Punch Bowl Road Priority: \_\_\_\_\_  
Morristown, New Jersey 07960 Category: C

Location: Oyster Creek, Forked River, New Jersey 08731

Type of Licensee: BWR (GE) 1930 MW(t)

Type of Inspection: Special, Unannounced

Dates of Inspection: February 6-11, 1974

Dates of Previous Inspection: January 21-25, 1974

Reporting Inspector: Edward G. Greenman  
Edward G. Greenman, Reactor Inspector

4/26/74  
Date

Accompanying Inspectors: D. L. Capton  
D. L. Capton, Senior Reactor  
Inspector

4/26/74  
Date

\_\_\_\_\_  
Date

Other Accompanying Personnel: \_\_\_\_\_

\_\_\_\_\_  
Date

Reviewed By: D. L. Capton  
D. L. Capton, Senior Reactor Inspector  
Reactor Operations Branch

4/26/74  
Date

*ajc/61*

SUMMARY OF FINDINGS

Enforcement Action

A. Violations

None

B. Safety Items

None

Licensee Action on Previously Identified Enforcement Items

Not inspected

Design Changes

None

Unusual Occurrences

None

Other Significant Findings

A. Current

1. Electrical Panel Fire

A flash over occurred on January 21, when attempts to remove leads were initiated at the rear of the 4F Panel (Control room) and resulted in the loss of recorder read out. (Report Details, Paragraphs 2 and 4)

2. Labor Dispute

15 maintenance workers were suspended by JCP&L on January 18, 1974 following a meeting with plant management. The suspension duration was for the remainder of the eight hour shift. (Report Details, Paragraph 7.a.)

3. Reactor Scram

A scram occurred during startup on January 20, 1974 due to an imbalance of the second stage PRV controls which resulted in a steam flow transient and feedwater addition. (Report Details, Paragraph 5.b.)

B. Status of Previously Reported Unresolved Items

Not inspected

Management Interview

An exit interview was conducted on February 11, with Mr. D. A. Ross, Manager, Nuclear Generating Stations, Mr. J. T. Carroll, Station Superintendent, and Mr. D. Reeves, Chief Engineer. Messrs. Sullivan, Swift, Riggle, Growney and Skalsky were also in attendance for JCP&L. Items discussed are summarized below:

A. General

The inspector summarized the scope of the special inspection, as restricted to a review of circumstances surrounding the reactor startup of January 20, 1974, a review of surveillance records concerning environmental areas and off-site instrumentation, and scheduled on shift observations of routine plant operations. Licensee representatives were informed that within the scope of the inspection, no violations or safety items were identified.

B. Observations of Plant Operations

The inspector stated that in general, plant operations appeared smooth. Specific comments were as follows:

1. Plant appearance appeared to be improving and substantial painting and housekeeping work was noted in progress.
2. Smoking and cigarette butts required attention. The inspector stated that the 4F panel in the control room was not secured, and cigarette butts were observed near electrical cables. The inspector further stated that this was unacceptable.
3. Required reading files and standing orders should be reviewed, specifically to remove obsolete material and to clearly define the authority of standing orders in administrative procedures.

A licensee representative concurred with the inspectors statements. (Report Details, Paragraph 7.b.)

C. Instrument Panel Problem

The inspector stated that his review of circumstances surrounding the instrument panel fire which occurred January 21, 1974 indicated a procedural deficiency which required resolution. The inspector further stated his understanding based on previous discussions with cognizant licensee representatives that procedure 103.12 Revision 1 dated 1/15/74 would be revised to clearly describe shift turnover

requirements including definition of areas of maintenance involving instrumentation that could affect plant operation.

A licensee representative concurred with the inspector's understanding. (Report Details, Paragraph 4)

## DETAILS

### 1. Persons Contacted

D. A. Ross, Manager, Nuclear Generating Stations  
J. T. Carroll, Station Superintendent  
D. L. Reeves, Chief Engineer  
J. L. Sullivan, Operations Engineer  
J. P. Maloney, Operations Supervisor  
R. F. Swift, Maintenance Engineer  
E. I. Riggle, Maintenance Supervisor  
E. J. Gowney, Technical Engineer  
K. O. Fickeissen, Technical Supervisor  
R. L. Stoudnour, Staff Engineer  
E. D. Skalsky, Radiation Protection Supervisor  
F. H. Kossatz, Mechanical Maintenance Foreman - Nuclear  
F. A. Anderson, Mechanical Maintenance Foreman - Nuclear  
R. Keating, Mechanical Maintenance  
T. L. Johnson, Instrument and Electrical Foreman - Nuclear  
R. McKeon, Shift Foreman  
B. J. Cooper, Shift Foreman  
N. M. Cole, Shift Foreman  
J. Molnar, Shift Foreman  
D. VanBarCom, Control Room Operator  
C. Silvers, Control Room Operator  
J. Young, Shift Foreman  
C. Dekker, Control Room Operator

### 2. Operations

On January 20, 1974, the reactor was critical, following a shutdown which began January 13, 1974.\* At 7:28 P.M. a reactor scram occurred due to high flux from coldwater injection, when the second stage reheat valve opened. Feedwater flow was reduced and subsequent level shrink and injection caused the scram. The reactor was again critical at 10:50 P.M., and in the run mode at 10:00 A.M. January 21, 1974. At approximately 4:00 P.M. January 21st, removal of leads from the LPRM downscale inhibit circuit caused a flashover in the rear of Panel 4F and tripped a breaker which caused a loss of power to the 4F recorders. Power was reduced to monitor instrumentation response and the breaker was reset. On January 22, 1974 power was again reduced to less than 50% when the torus atmosphere was not less than 10% as required by the Technical Specifications, due to an inadequate N<sub>2</sub> supply.\*

\*RO Inspection Report 50-219/74-01 dated February 7, 1974

3. Logs and Records

The following logs and records were reviewed without comment except as noted within this report.

- a. Shift Supervisors Log, January 16-24, 1974.
- b. Station Log Book - January 16-24, 1974.
- c. Reactor Pressure and Turbine Pressure Charts - January 20-23, 1974.
- d. Maintenance History Reports - January 14-23, 1974.
- e. Electrical Log - January 16-25, 1974.
- f. Instrument Log - January 17-25, 1974.
- g. Required Reading Files (Control Room Copy).
- h. Standing Orders (Control Room Copy).
- i. Electrical Maintenance History Reports December 30, 1973 - January 31, 1974.
- j. IRM and APRM Channel Recorder Charts - January 18-24, 1974.
- k. Bridge Temperature Charts - January 18-23, 1974
- l. Discharge Canal Temperature Charts - January 18-23, 1974.
- m. Environmental Surveillance Records - October 22 - December 19, 1973.

4. Reactivity Control and Core Physics

a. APRM Down Scale Rod Block Inhibit

The licensee had disabled the downscale inhibit block leads previously installed. Lead removal was conducted in accordance with a PORC approved procedure change request dated January 18, 1974. This change was reviewed by the inspector. The instrument log indicated that on January 21, 1974 while verifying the leads to be removed, the lead on the involved terminal board lug (Rear 4F panel) was touched and a loose wire strand contacted ground, which resulted in a trip of the power feed breaker in instrument panel 4. (Interrupting power to nuclear instrumentation recorders.) Continuity checks and resistance to ground were performed and the breaker and circuit was re-energized. The inspector visually examined the panel and

observed a small amount of charring and burned lead wires. Discussion with personnel involved indicated that one operator heard a "cracking noise" and observed a "flash". Log records and charts reviewed indicated that recirculation flow was reduced to observe instrument response. A licensee representative stated that all instruments functioned normally during the interval of the occurrence. Plant Records indicated no scram occurred. Discussion indicated that one licensee representative at the control panel was unaware that instrumentation technicians were performing work. This occurrence happened during a shift change. The inspector discussed requirements of the Shift Turnover Procedure with a licensee representative. Inclusion of briefing concerning definition of maintenance activities which could affect plant operation was discussed at the exit interview. Additionally, the licensee issued a memorandum during the inspection to operations personnel, to insure shift changes are performed with minimal confusion and to complete or defer work and surveillance testing until on-coming shift personnel have assumed responsibilities.

5. Auxiliary Systems

a. Isolation Condensers

"B" Condenser Valve V-14-32

During valve operability testing on January 18, 1974, V-14-32 was determined to be noisy during operation. The valve was repacked and did not appear to open fully during testing. The valve was being de-energized from the torque switch rather than from the limit switch. After disassembly, the stem was found to be bent, and was subsequently straightened and the valve reassembled and tested on January 20th. According to licensee representatives, electricians and operators assisted with the bulk of this work due to the unavailability of sufficient maintenance personnel.

b. Second Stage Reheater PRV Control

On January 20, 1974 a reactor scram occurred from IRM High Flux, when control of the PRV's was switched without balancing the system at the "manual loading station". With the manual regulator set at zero psig and the automatic signal at 30 psig, and the transfer to "auto" was made, both PRV's fully open creating a steam flow transient requiring feedwater addition. Records indicated that an IRM trip occurred at greater than 120% on Range 9. Reactor pressure was about 350 psig and turbine vacuum was less than 20"Hg at the time of the scram. Discussion with involved personnel indicated that switching was performed by a

licensed senior operator. Records reviewed indicated no other scrams occurred during the startup beginning January 20, 1974.

## 6. Environment

The following surveillance records for the periods as indicated were reviewed against requirements of the Technical Specifications, Table B.II.1.

### a. Radiogas Surveys (Film Badge) - December 12, 1973 - January 15, 1974

December results for 20 samples indicated zero Mrad readings. January results were incomplete. Licensee records indicated that one (1) of 20 badges was missing at the collection. Discussion indicated that occasionally, a badge could not be found.

### b. Airborne Particulate Samples - October 22, 1973 - December 19, 1973

Highest readings observed were at Station I for samples collected December 19, 1973 at  $(4.2 \pm 0.7) \times 10^{-2}$  pCi/m<sup>3</sup>.

### c. Rainwater Samples\* - December 19, 1973

Five (5) 1000 ml samples were collected. Highest readings were  $0.5 \pm 0.1$  nCi/m<sup>2</sup>.

### d. Vegetation Samples\* - November 19 - December 14, 1974

The licensee counts gross  $\beta$  each four (4) weeks. The highest reading (wet weight) was reported as  $8.0 \pm 1.4$  pCi/gram.

### e. Soil Samples\* - November 20 - December 19, 1973

The highest reading observed was reported as  $5.9 \pm 1$  pCi/gram.

### f. Well Water\* - October 22 - December 19, 1973

The licensee procures four and 12 week samples. All data indicated values below preoperational information.

### g. Surface Water\* - November 20 - December 18, 1973

Five samples were taken, three saltwater and three freshwater samples. The December data indicated a higher gross  $\alpha$  (suspended) i.e.  $0.6 \pm 0.1$  pCi/liter. Normal readings were about 0.1 pCi/liter. One gross  $\beta$  (suspended) sample indicated slightly higher than normal, i.e.  $7.9 \pm 1.3$  pCi/liter. Normal readings were about 1.3 - 3.7 pCi/liter.

\*Results of January samples had not been received by the conclusion of this inspection.



h. Effluent Temperatures

The inspector reviewed bridge temperature and discharge canal temperature charts for the period January 18-24, 1974. Temperature fluctuations were caused during this interval by a reactor scram, a load reduction and pump actions. One unaccountable temperature rise on January 19th was observed.

7. Miscellaneous

a. Labor Problem

Discussion with cognizant licensee representatives indicated that a dispute occurred with respect to maintenance worker lunch periods on January 13, 1974. On this date according to licensee representatives, some personnel left for an unauthorized lunch break. As a result, on January 18, 1974, following a meeting with plant management, 15 maintenance personnel were suspended for the remainder of an eight (8) hour shift. Discussion with maintenance foreman and a workman also indicated that no walk-outs occurred with the exception of the unauthorized lunch break on January 13.

b. Observation of Shift Operations

During the course of the inspection, the inspectors participated in on-shift coverage and accompanied shift foreman on tours of the reactor. The following observations and deficiencies which required resolution were discussed at the exit interview.

(1) Housekeeping

The licensee's program of repainting and cleaning of the facility is continuing and improvements were noted. Some areas toured were in disarray and were attributed to the cleanup in progress. Painting work is being completed by outside contractor. The inspectors noted that the 4F panel front cover at the control console had been removed and observed cigarette "butts" near electrical cables. Licensee representatives were advised that this was unacceptable.

(2) Required Reading Files

Review of control room files indicated that obsolete material was maintained in addition to current items, i.e. outdated radio transmitter license. The current licensee was conspicuously posted in the control room. The inspector discussed review and updating of these files with a licensee representative.

(3) Standing Orders

The inspector discussed operator interpretation of the status and authority of facility standing orders, with operations personnel contacted during on-shift observations. The inspector noted that this area is not clearly defined in the Oyster Creek facility procedures. A licensee representative stated that this area would be resolved.