U. S. ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION I

RO Inspection Report No. 50-219/72-04

Subject: Jersey Central Power & Light Company

Oyster Creek

License No. DPR-16

Location: Forked River, New Jersey

Priority

Category C

Type of Licensee: BWR, 1930 MWt

Type of Inspection: Routine

Dates of Inspection: July 5 - 7, 10, 12-14, 1972

Dates of Previous Inspection: April 21, 1972

Principal Inspector: F. S. Cantrell, Jr.
F. S. Cantrell, Reactor Inspector
10/3/72
Date

Accompanying Inspectors: None
Date

Date

Other Accompanying Personnel: None
Date

Reviewed By: R. T. Carlson
R. T. Carlson, Chief, Reactor Operations Branch
10/4/72
Date

Proprietary Information: None

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SECTION I

Enforcement Action

Noncompliance Items

A. Technical Specification 3.6.C states, in part, "The maximum amount of radioactivity, . . . contained in the radwaste storage tanks outside the radwaste building shall not exceed 10.0 Ci."

Contrary to the above requirement the amount of radioactivity in the outside radwaste storage tanks was 12.78 Ci when inventoried on June 28, 1972. (Paragraph 22)

B. Technical Specification 3.5.B.1 requires that secondary containment integrity be maintained at all times when the reactor is operating. Technical Specification 3.5.B.2 states, in part, "The standby gas treatment system shall be operable at all times when secondary containment integrity is required . . ."

Contrary to the above requirement secondary containment integrity was compromised and the standby gas system was rendered inoperable on April 10, 1972 with the reactor operating when the 1-13 supply fan motor breaker was racked-out to repair the fan motor. The isolation circuit which closes the reactor building ventilation system supply dampers when the standby gas treatment system is initiated was rendered inoperable when the 1-13 breaker was racked-out. The supply dampers were open at the time. This condition existed until April 11, 1972. (Paragraph 30)

Safety Items

A. Gags which would prevent operation were installed on the safety valves for the operating pressure leak test following the refueling outage. System pressure relief capabilities available at the time were less than code requirements. (Paragraph 21)

Licensee Action on Previously Identified Enforcement Matters

As a result of the June 23 - 25 and July 2, 1971 inspection, two items of noncompliance with Regulatory requirements were identified in a letter from J. P. O'Reilly, Director, Region I, to JCP&L on September 14, 1971. No reply was necessary for Item No. 1. In a letter dated October 1, 1971, JCP&L replied to Item No. 2 as follows:

"Recently the GORB Chairman has instituted procedures that require the General Public Utilities Safety and Licensing Group to review all GORB Audit Reports to determine if any license violations are involved. The results of this review are reported to the Chairman, and investigations and reports to the President of JCP&L are completed as necessary." The JCP&L letter further stated, "With respect to Item No. 2 of your letter, an investigation will be conducted and the results reviewed at the next GORB meeting." Contrary to the above commitment, the minutes of the next GORB meeting, which was held on November 23, 1971, did not show that the investigation had been conducted or that the results had been reviewed. Records did not indicate any other meeting had been held subsequent to October 1, 1971.

As a followup to the February 23, 24, 25, 29, and March 1, 1972 inspection, a letter from J. P. O'Reilly, Director Region I to JCP&L dated May 19, 1972 informed JCP&L that, ". . .our inspector was unable to determine that the investigation referred to in your letter (dated October 1, 1971) had been conducted, or that the results of the investigation had been reviewed by the GORB." The JCP&L reply dated June 8, 1972 stated "The failure of the GORB to carry out the investigation noted in your letter of September 14, 1971 was investigated and the results were reported to the Company President in a memorandum dated October 12, 1971. Subsequently, the original noncompliance item was investigated and the results were reported to the Company President in a memorandum from the General Office Review Board Chairman dated November 10, 1971. Copies of these memorandums are available for your future review." The subject memoranda were reviewed during recurrent inspections and the item is considered resolved.

As a result of the February 23, 24, 25, 29, and March 1, 1972 inspection two items of noncompliance with Regulatory requirements were identified in the May 19, 1972 letter to JCP&L. In the June 8, 1972 letter, JCP&L replied to the enforcement action as follows:

1. "In connection with Item No. 1 of the enclosure to your letter, we expect to complete the investigation of our tagging system by August 15, 1972 and implement appropriate corrective measures, if necessary, by October 1, 1972. In the interim, all shift foremen have been formally notified to review the Technical Specifications as they relate to the availability of engineered safeguards and to ascertain that all licensed operators on their shift are also aware of these requirements. These reviews have been completed and documented." This matter was reviewed and is considered resolved.

2. Statements were made reporting the adoption of new administrative pro-

cedures to assure more timely review and reporting of abnormal occurrences. This matter was reviewed and is considered resolved.

Unresolved Items

A. JCP&L has not established a schedule for checking the relief valves on the liquid poison system. (Paragraph 41)

B. Oyster Creek does not have a positive means to assure that water cannot siphon from the spent fuel pool via the fill line. (Paragraph 39)

C. JCP&L in evaluating the current use of paddle type flow switches in plant systems. (Paragraph 37)

D. JCP&L is considering modification to the controls for the dampers that supply air to the cooling radiators on the emergency diesel generator. (Paragraph 36)

E. Eleven persons received exposures in excess of 3 rems during the April - June 1972 Quarter. (Paragraph 33)

Status of Previously Reported Unresolved Items

A. Reactor vessel level instrumentation - The "A" GE/MAC level indicator does not agree with the "B" GE/MAC or the Yarway level indicator. This problem is still unresolved. (Paragraph 8)

B. The protective devices for the No. 2 emergency diesel generator were calibrated by the Jersey Central Relay Department during the May - June 1972 outage. This matter is considered resolved. (Paragraph 9)

Unusual Occurrences

A. The scram dump volume level switch failed to actuate a high level alarm during a surveillance test on March 1, 1972 (Inquiry Report 219/72-04 and letter from JCP&L March 10, 1972).

B. When one of the reactor building supply fans was racked out for maintenance on April 10, 1972, the isolation circuit associated with the reactor building ventilation supply dampers was rendered inoperable (IR 219/72-06 and JCP&L letter April 20, 1972). (Paragraph 30)

C. Following a scram on April 13, 1972, four control rod drives settled at notch "02" (IR 219/72-07 and JCP&L letter May 30, 1972). (Paragraph 32)

D. When the mechanical vacuum pumps were started during a plant startup on April 14, 1972, the stack release rate reached 330,000 uCi/sec. (IR 219/72-08 and JCP&L letter May 30, 1972)

E. An inspection in the torus May 2 - 3, 1972 showed that five baffles were loose (IR 219/72-11 and JCP&L letter June 2, 1972). (Paragraph 4)

F. One fuel assembly was determined to be misoriented 90° while "sipping" fuel assemblies during the refueling outage. (IR 219/72-12 and JCP&L letter May 24, 1972). (Paragraph 7)

G. A design evaluation of the reaction forces on the discharge piping from the electromatic relief valves indicated that the supports might be under designed (IR 219/72-13 and JCP&L letter August 22, 1972). (Paragraph 31)

H. The expansion joint in the discharge line of the "A" emergency service water pump failed during a surveillance test on June 15, 1972 (IR 219/72-14 and JCP&L letter June 26, 1972).

I. One of the main steam line isolation valves leaked excessively during a surveillance test on June 16, 1972 (IR 219/72-15 and JCP&L letter June 26, 1972). (Paragraph 20)

J. An odor of burning insulation was detected from a relay that operates the seal in contents for the outside MSIV's. (IR 219/72-16 and JCP&L letter June 26, 1972). (Paragraph 35)

K. The cooling radiator shutters on the No. 1 emergency diesel generator failed to open during a surveillance test (IR 219/72-17 and JCP&L letter June 26, 1972) (Paragraph 36)

L. The activity inventory in the outside radwaste storage tanks exceeded 10.0 ci on June 28, 1972 (IR 219/72-18 and JCP&L letter July 11, 1972). (Paragraph 22)

M. A leak test was performed on the primary system with the safety valves gagged on June 16, 1972 (IR 219/72-19) (Paragraph 21)

N. Eleven men received whole body doses in excess of 3 rems during the second quarter 1972 (IR 219/72-20 and JCP&L letter August 10, 1972). (Paragraph 19)

O. During an inspection of the turbines during the September - October 1971 and the May - June 1972 outage, 374 turbine blades retaining pins were replaced (17 due to cracks). (Paragraph 24)

P. Flux shapes with a peak at the top and the bottom have been observed at OC-1. (Paragraph 34)

Persons Contacted

Mr. T. J. McCluskey, Station Superintendent
Mr. D. A. Ross, Technical Supervisor
Mr. E. I. Riggle, Maintenance Supervisor
Mr. Don Reeves, Engineer
Mr. R. Staudnour, Engineer

Exit Interview - July 13, 1972

The following subjects were discussed at the exit interview with Messrs. McCluskey, Ross, Riggle and Reeves:

A. Program to check the relief valves on the liquid poison system - Mr. McCluskey stated that this matter would be reviewed and that a surveillance testing program would be established as appropriate. Jersey Central's resolution of this matter will be reviewed during the next inspection. (Paragraph 41)

B. Use of gags on the safety valves while performing the operational hydro test - Mr. McCluskey stated that the pressure during the test was carefully controlled administratively to not exceed Technical Specification limits and that he did not consider this a violation of Technical Specifications, however, the safety valves will not be gagged in the future unless a self actuating relief device is in service. (Paragraph 21)

C. The temporary procedure change which placed the gags on the safety valves during the hydro test - The inspector stated that he did not consider that this was the type of temporary procedure change that was permitted by the Technical Specifications. Gagging one or two of the valves during the hydro would not change the intent of the Technical Specifications. In addition, there was no record that this change had subsequently been reviewed by the PORC. Mr. McCluskey stated that the recommendation to gag the safety valves was reviewed with his staff. The temporary procedure change was signed by two Senior Reactor Operators as required by Technical Specifications. He stated that the minutes of the next PORC meeting would show the subsequent review of the temporary procedure change. This matter is considered resolved pending a review of PORC meeting minutes during the next inspection. (paragraph 21 & 25).

D. Exceeding 10 curies in outside tanks (12.78 Ci) - The inspector stated that the Technical Specification requirement to complete an inventory of activity in the outside tanks at least every 72 hours was the minimum acceptable frequency. If it requires more frequent inventories to assure compliance with the Technical Specifications, then more frequent analyses are required. A post mortum review of radwaste records showed that the system was in trouble prior to the June 28 inventory and RO:I was not notified until June 30, 1972. Mr. McCluskey acknowledged that more frequent inventories would be made if needed, but stated that until this violation occurred, plant personnel did not believe that the 10 Ci limit could be exceeded. By the time the inventory on June 28 was completed, the tank containing the high activity water had been recycled back inside the radwaste building. The tank analysis and calculations were checked to determine how the inventory could be so high. An error was found in the analysis, however, the results were not verified until late June 29, 1972, and Region I was notified the next day.

The inspector stated that he accepted the explanation given; however, a telephone report should be made in 24 hours of the indicated violation, not within 24 hours of the confirmed violation. If a subsequent analysis shows no violation, the re-evaluation can be reported by a telephone call. The initial telephone report does not commit a licensee to make a written report even if no reportable event occurred.

Mr. McCluskey stated that a study would be initiated toward increasing their knowledge of the inventory of activity in the tank farm and to develop techniques to avoid exceeding the 10 Ci limit. (Paragraph 22)

E. Information recorded in Foreman's Log Book - The inspector stated that it appeared the Foremen's log should contain more information about abnormal plant operations. It is used to record surveillance testing, but it did not report that the waste neutralizer tanks overflowed or that the activity inventory in the tank farm exceeded 10.0 Ci.

After several minutes of discussion of what should be recorded, Mr. Mc Cluskey stated that emphasis would be placed on improving the information recorded. (Paragraph 26)

F. Note in Foremen's Log June 27, 1972 - "Fire in white trailer North of Reactor Building. Called Forked River Fire Department."

The inspector stated that we would like to be notified when this type of event occurs even though there is no specific Technical Specification requirement for notification. In the event of adverse publicity it helps the AEC to know the status, and, public relations-wise, it could help JCP&L. Mr. McCluskey stated he would try to relay this type of information to RO in a timely manner.

G. Siphon breakers in spent fuel pool inlet line - Mr. McCluskey agreed to investigate a means of testing the check valves in the inlet line or to evaluate other methods to prevent a siphon from being established. The resolution of this matter will be reviewed during the next inspection. (Paragraph 39)

H. Sensitivity of containment leak detection systems - Mr. Ross stated that test work to supplement the present sump method of leak detection had been unsuccessful, and that the results of this testing would be reported in the January - June 1972 Semiannual Report. A purchase order for a constant air monitor that will measure particulates, iodine, and gaseous activity is being considered; however, at present there are no spare pentrations into containment There has been no decision reached on the resolution of this matter. (Paragraph 29)

I. Paddle type flow switches - Mr. McCluskey agreed to have the PORC evaluate the use of paddle type flow switches with respect to replacing these switches with a different type switch or to justify their continued use. (Paragraph 37)

J. Modification to the standby gas treatment system isolation circuit - Mr. Riggle stated the modification could be made while the plant was operating, and Mr. McCluskey stated that work would be complete by January 1, 1973. (Paragraph 30)

K. Relay failure in reactor protection system - Mr. McCluskey stated that subsequent testing had shown that the relay was still operable and capable of performing its intended functions. He stated that he did not consider this a reportable item per the Technical Specifications; however, a report has been submitted. The inspector stated that the 24 hour notification to RO of an unusual event or failure does not automatically require a written report to be submitted for an unreportable event. Mr. McCluskey stated that he was embarrassed that the relay was assumed to be bad when it was replaced and was not tested prior to submitting the written report of the failure. (Paragraph 35)

L. Failure of the dampers to open on one of the emergency diesel generators - Mr. McCluskey stated that the failure is being reviewed with the vendor to determined if any modifications were recommended and how long the EDG can be operated with the dampers closed. Any recommendation will be reviewed by PORC and following this review the operators will be given specific instruction for action if the dampers fail to open during an emergency start, ie., keep hands off, or shut down or other instruction.

Mr. McCluskey agreed to inform the inspector of the specific instruction given to the operators. (Paragraph 36)

M. Health Physics surveys while removing the tube bundle from the concentrator-- The inspector stated that the air activity samples and surveys for contamination were not taken in a timely manner while removing the tube bundle. It was pointed out that even though previous experience had shown the contamination was tightly adhering, good HP practices require that surveys and air samples be taken at the beginning as well as during the work. Air samples were not obtained until after the tube bundle was removed from the concentrator and the tube bundle was positioned for cleaning.

Mr. McCluskey agreed samples should be taken at the beginning of the job and that this point would be re-emphasized to the HP Group. In addition, he stated that another concentrator tube bundle was being purchased and this will allow the tube bundle to be stored for a period while activity decays before attempting to unplug the bundle.

The inspector stated that he would review the results of the whole body count during the next inspection, however, he would like to be notified if the results showed any abnormal uptakes. Mr. McCluskey agreed to do so. (Paragraph 23)

N. Inspection of pipe hangers in the drywell - Mr. McCluskey confirmed that a program was being implemented to identify and inspect all pipe hangers in the drywell, and that this program would be implemented at least by the next scheduled refueling outage (spring 1973). (Paragraph 28)

O. Follow up report on safety valve cracking - Mr. McCluskey stated the followup report would be submitted to Licensing by August 1, 1972. (Paragraph 27)

P. Report on additional restraints for the relief valve discharge piping - Mr. McCluskey stated that the final report would be submitted to Licensing by August 25, 1972. (Paragraph 31)

Q. DC operated pressure switches in the reactor protection system or safeguards system - Mr. McCluskey confirmed that all of the DC operated pressure switches in the subject system would be replaced with a GE type BZR-169 AC-DC rated switch during routine surveillance testing during the next three months. (Paragraph 38)

R. Flux wire samples removed from the reactor during the October - November 1971 outage - Mr. McCluskey stated that the results of the analysis of these samples were being reviewed by Jersey Central and General Electric and that the results would be reported in the July - December 1971 semi-annual report if the analysis confirmed previous calculation. If not, the sample analysis would be the subject of an special report. (Paragraph 40)

S. Personnel Overexposures - The inspector asked about Jersey Central's plans to investigate the eleven overexposures in the second quarter of 1972. Mr. McCluskey stated in a subsequent telephone call that the Chairman of the GORB had been directed by the President of JCP&L to investigate the overexposures and submit the required report to the Commission. (Mr. McCluskey stated he was aware of the 30 day report requirement.) (Paragraph 33)

Meeting with the General Office Review Board July 27, 1972

The inspector met the members of the GORB at the beginning of the regularly scheduled meeting and discussed the importance of GORB in assuring the safe operation of Oyster Creek-1. Emphasis was placed on the need for audits of plant operations by GORB and documentation of GORB's activities including the basis for decisions or recommendations. The inspector did not attend the the meeting, per se.

SECTION II

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

1. General

The reactor operated at gradually reduced power levels (1885 - 1830 MWt) from January 28, 1972 until April 13, 1972 when the reactor scrammed on low water level as a result of a valving error that caused a feedwater ,ump trip. Subsequently the reactor scrammed on April 24, 1972 because of low condenser vacuum as a result of a loss of a transfer pump seal. The plant was returned to power, and subsequently shut down for the refueling outage on May 1, 1972. A turbine trip test was performed from 1830 MW to initiate the shutdown. All systems responded as expected.

During this period, stack release rates increased to approximately 107,000 uCi/sec. Reactor power was generally adjusted as necessary to keep release rates less than 100,000 uCi/sec. (TS limit 0.21/E Ci/sec equivalent to approximately 300,000 uCi/sec). During the startup on April 15, 1972, the release rate reached 300,000 uCi/sec, however, due to a lower he limiting release rate was approximately 800,000 uCi/sec. Relea :ates following the outage have been in the range of 13,000 to 15,000 uCi/sec.

The irradiated fuel was sipped to determine which assemblies contained failed fuel pins. Fifty-eight assemblies were identified as containing failed fuel pins and were replaced. A total of 136 new fuel assemblies were charged to the core (132 GE Type II and 4 Jersey Nuclear Type III*). Twenty three control rod drives were replaced with refurbished drives (including the four drives that had settled at notch 02 following scrams**). Twenty one local power range monitor strings were replaced.

As a result of finding cracks in the seat bushing of two spare safety valves, all sixteen safety valves on the reactor were disassembled and inspected. Cracks were found in seven additional safety valves. The defective seat bushings were replaced, the valves were retested at the vendors shops and reinstalled.

Additional outage work performed included: replaced liquid poison check valves (GE Punchlist items), inspected the internal of all electromatic relief valves, replaced the instrument taps in the throat of the main steam flow restrictors as recommended by GE FDI 339, made

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*Described in JCP&L submittals April 6, 19, 1972

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panel connections for installation of the computer, modified second stage reheater to permit operation at full power, installled additional restraints on ERV discharge piping, inspected torus and removed 18 baffles (JCP&L letter 6/2/72), and ran containment leak rate test.

The reactor was made critical June 19, 1972 and the plant was brought on line June 20, 1972. Power has been limited to ~ 1900 MWt due to steam flow restrictions in the turbine control valves (Licensed level 1930 MWt).

2. General Office Review Board (GORB)

   Minutes for meeting during the period February 29, 1972 through June 7, 1972 were reviewed.

3. Plans to install check valves in discharge lines of the air compressor and install an additional air compressor. (Letter from JCP&L December 17, 1971)

4. Removal of five displaced baffles and thirteen other baffles from the torus (Letter from JCP&L June 2, 1972)

5. Trip of one feedwater pump and three recirculation pumps (Letter from JCP&L February 2, 1972)

6. Ruptured expansion joint in an emergency service water discharge line (JCP&L letter June 26, 1972).

7. Misoriented fuel bundle (90°) in position 25-08 during cycle 1B (Letter from JCP&L May 24, 1972)

8. Reactor Vessel Level Instrumentation

   (RO Report 219/72-02 Paragraph 9)

   The licensee's investigation is continuing as to why one GE/MAC level indicator reads 1.3 feet lower than the other GE/MAC level indicator and the Yarway level indicator.

9. Calibration of Protection Devices for No. 2 Emergency Diesel Generator

   (RO Report 219/72-02 Paragraph 12)

   The protective devices were calibrated by the Jersey Central Relay Department during the May - June 1972 outage, however, the report had not been received at Oyster Creek.

10. Electromatic Relief Valves

The internals of all 5 ERV's were inspected by the licensee during the refueling outage.

11. Radwaste Facilities

According to Mr. Ross, a purchase order has been issued to buy a spare tube bundle for the radwaste concentrator, and is included in the budget to install a second concentrator.

12. Containment Inerting Equipment

The installation of the in-plant liquid nitrogen evaporator was completed in March 1972 and first used for inerting containment April 21 - 22, 1972 (when decision was made to defer refueling outage).

13. Turbine Trip Test on May 1, 1972

14. Procedures for Purging Containment

15. Operating Voltage for DC Operated Relays

16. Load Test Station Batteries

17. JCP&L Letter of June 8, 1972, Replying to RO letter of May 19, 1972

The corrective action reported in the JCP&L letter was verified.

18. High Stack Release Rate on April 14, 1972 (Letter from JCP&L May 30, 1972

19. Shutdown Margins

Physics tests performed at the beginning of Core II demonstrated the required shutdown margin. (1.65% ΔK)

Details of Subjects Discussed in Section I

20. Main Steam Isolation Valve (MSIV) Leakage

Letter from JCP&L June 26, 1972

While checking the leakage of individual MSIV's as part of the containment leak rate test, one of the inside valves (NSO3B) was found leaking in excess of 100 CFM. The maximum permitted leakage in 9.9 CFM.

SCFH SCFH

The valve was disassembled, and the seat was lapped. The pilot stem was found out of alignment (38 mil) and was straightened. A new shaft without a cushion spud was installed as recommended by the vendor. The valve was reassembled and retested with satisfactory results (0.1 CFM).

This valve failed to pass the leak test in November 1971 as well as several times previously. At the direction of the General Office Review Board, a consultant has been employed to evaluate the long term suitability of these valves. (Enclosure No. 4 gives a history of the MSIV leakage and the corrective action for each valve when required.)

21. Inoperable Safety Valves During Hydro Test

A note in the shift Foremen's log on June 16, 1972 indicates the gags were removed from the safety valves when reactor pressure was lowered to approximately 870 psi following the operating hydro test. Discussions with Mr. McCluskey indicated that gags were placed on the Safety Valves upon the recommendation of the S-Valve vendor's representative and was done via a temporary procedure change. Records do not show that use of the gags were subsequently approved by the PORC.

Technical Specification 2.2 specifies the reactor coolant system pressure shall not exceed 1375 psig whenever irraidated fuel is in the reactor vessel.

Technical Specification 2.3 Specific Limiting Safety System Settings:

Reactor High Pressure Safety Valve Initiation	4 @ 1212) 4 @ 1221) ± 12psi 4 @ 1230) 4 @ 1239)

The control rod drive pump was used to provide reactor pressure, and it normally operates at approximately 1450 psi; (pump rated 1600 psi) therefore, it was capable of exceeding the TS limit of 1375 psi with the 16 Safety Valves inoperable.

Section III Boiler and Pressure Vessel Code, Article N-910.1 specifies that the vessel shall be protected while in service against the consequence of excursion of temperature and pressure, both transient and steady state.

Article N-910.3 specifies that self-actuated safety relief devices shall not take advantage of relieving capacity of externally actuated relief devices unless they meet the requirements of Article N-911.4.

N911.4A & B specifies that externally powered relief devices are not acceptable unless they are fail safe.

The electromatic relief valves are solenoid actuated; therefore, they are not acceptable per N911.4 A & B. The relief valves on the cleanup system could be isolated from the reactor in the event of an isolation signal; therefore, they do not satisfy the code requirements for a self-actuating relief device.

Mr. McCluskey stated that as a result of the cracks detected in the seat bushings of nine safety valves (Paragraph 27), the vendors representative recommended that the safety valves be gagged during the hydro test to avoid the accumulation of water on the outside of the seat bushings because safety valves tend to weep when pressurized cold. Mr. McCluskey stated that gagging the safety valves was discussed with his staff and he made the decision to install the gags. Instructions were issued to make a temporary procedure change to place the gags on the safety valves during the hydro test. Mr. McCluskey stated that he felt the procedure change had been properly considered and that special administrative controls were in effect to avoid approaching the setpoint of safety valves. He stated that the administrative procedures were backed up by the electromatic relief valves and the self-actuating relief valves on the cleanup system. Considering the above, he felt the reactor was adequately protected; however, in the future, prior to gagging the safety valves, a self-actuating relief valve will be installed that meets all interpretation of the code requirements.

22. Exceeding Activity Inventory Limit in Outside Radwaste Tanks

(JCP&L letter July 11, 1972)

The activity inventory that was made on June 28, 1972 showed that the outside tank farm contained 12.78 Ci. The inventory was calculated as of 8:30 a.m. Technical Specification 3.6C limits the activity to 10 Ci in the tank farm. Pluggage of the waste concentrator following the refueling outage caused a higher than normal inventory of liquid waste. While regenerating one of the condensate demineralizers, the A waste neutralizer tank overflowed on June 26 - 27, 1972. This overflow water, which had not been neutralized, was pumped to the floor drain collector (FDC) Tank and processed through the floor drain filter to the A Floor Drain Sample Tank (outside). As a result of the regeneration water not being neutralized prior to being transferred to the Floor Drain Collector Tank, additional activity may have been extracted from stray resin that is believed to be in the FDC Tank or on the floor Drain Filter.

At approximately 2:00 p.m., June 28, 1972 the plant chemist notified the shift foreman that it appeared the activity in the tank farm was greater than 5 Ci and suggested recycling the A floor drains sample tank. Based on this recycling, the inventory was less than 5 Ci by 3:30 p.m. The complete inventory results were not available until later in the day when all of the tank analyses were complete.

23. Radwaste Concentrator

As a result of reduced flow through the concentrator due to pluggage of the tube bundle, it was necessary to remove the tube bundle from the concentrator on July 7, 1972. This is accomplished by unbolting the head of the concentrator and lifting the tube bundle out of the concentrator and placing it in a horizontal position on the roof of the cell areas. Steam is supplied to the jacket to soften the plug while each individual tube is reamed out. This operation has been performed several times at Oyster Creek. A shed has been built for the mechanics to protect the mechanics from the weather. The end of the tube bundle is placed in the open end of the shed.

A survey by the rad protection personnel showed the following maximum readings:

Radiation

1500 mR/hr @ 1" from concentrator (in cell)
1000 mR/hr @ 1" from tube bundle
100 mR/hr @ 3' from tube bundle

Contamination

6780 d/m B Top of Tube Bundle
2300 d/m B Roof Area, first day
26,000 d/m B Roof Area, second day
260 d/m B Crane

Air Sample

3.9×10^{-10} uCi/cc gram B @ 1' from the open concentrator flange.

Gamma Spectrum on Air Sample

1.62×10^{-10} uCi/cc Co-58
1.62×10^{-10} uCi/cc Co-60
2.35×10^{-10} uCi/cc Cs-134
1.55×10^{-10} uCi/cc Cs-137

The removal of the tube bundle from the concentrator was observed by the inspector. At the time, personnel were not using respiratory protection, air samples had not been taken, and air activity was not being monitored. When questioned Mr. Reeves and subsequently Mr. Sullivan stated that previous experience had shown that air activity was not a problem, however, air monitoring was initiated after the tube bundle was positioned for work.

Arrangements were made to have a whole body count made on all employees that worked in regulated areas during the outage. The counting had not been performed on men involved in removing the tube bundle. Preliminary field evaluation of the whole body counting of the men involved in the concentrator work did not show any abnormal uptakes according to Mr. McCluskey (by telephone August 4, 1972). The men involved in cleaning the concentrator and their estimated exposure for the job is shown in Enclosure No. 2.

24. Failure of Turbine Retaining Pins

During the inspection of the A, B, and C low pressure turbines during the September - October 1971 and the May - June 1972 outages, a total of 374 turbine blade retaining pins were replaced as part of turbine blade repairs and due to cracks found in the pins (17 due to cracks). Records supplied by Mr. Riggle showed the following distribution:

A Turbine - 95
B Turbine - 153
C Turbine - 126

The repairs were performed under GE supervision.

25. Plant Operation Review Committee (PORC) Meeting Minutes

PORC meetings were reviewed for the period February 10, 1972 through June 19, 1972. The PORC minutes did not show that the temporary procedure change to the hydro procedure was subsequently approved by the PORC. Mr. McCluskey stated that this was on the agenda for the next PORC meeting.

26. Foremen's Log

Reviewed the log for the period June 16, 1972 through July 12, 1972. The general comment is that the log is used to record routine information, however, there was no note to show that the waste neutralizer tanks overflowed on June 26 - 27, 1972 or that the activity in the tank farm exceeded 10.0 Ci on June 28, 1972. A question exists as to whether all other unusual events are recorded. Mr. McCluskey agreed that additional emphasis would be placed on expanding the information recorded and assuring that the log contained information about unusual events.

27. Cracks in Safety Valve Seat Bushings

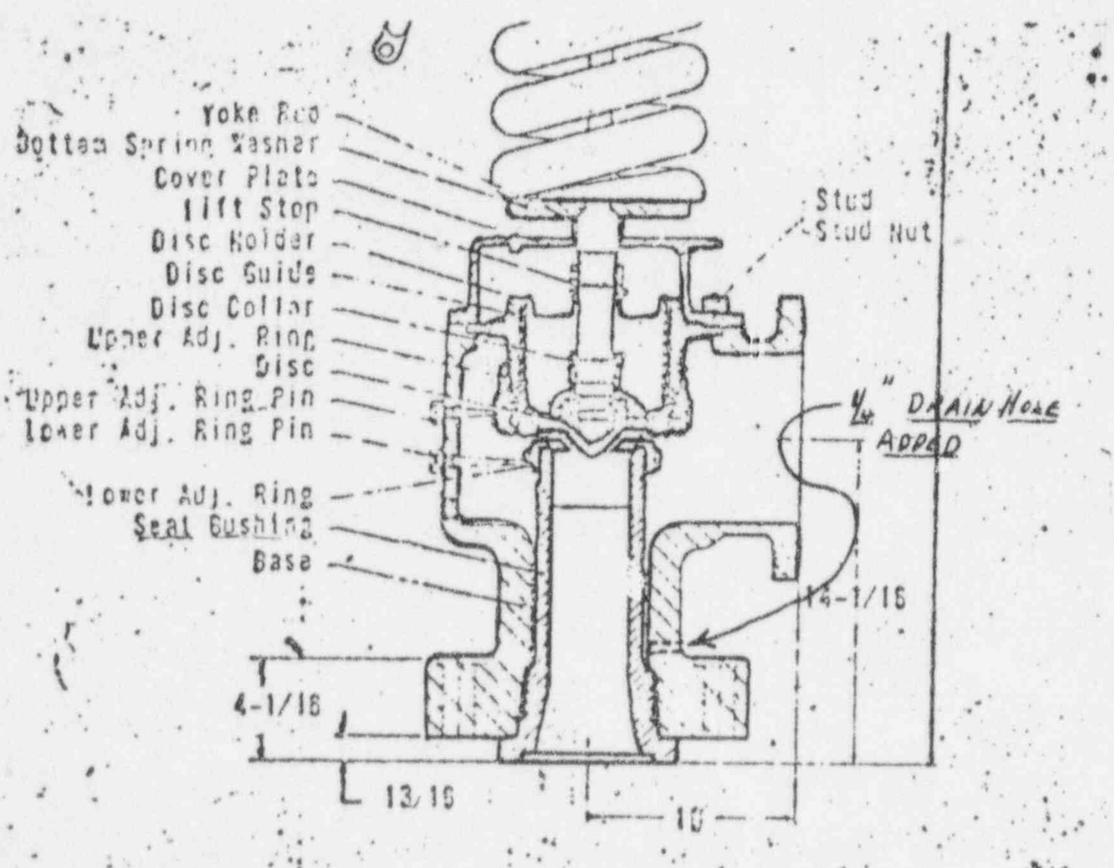
Letter from JCP&L May 1, 1972

After a liquid penetrant inspection of the seat bushing of the five spare safety valves (Removed from service during the October - November 1971 outage) showed cracks in two of the seat bushings, all of the safety valves were removed and inspected during the May - June 1972 outage. Cracks were found in the seat bushing of seven of the sixteen installed valves. The cause of the cracking was evaluated to be chloride stress corrosion by General Electric and JCP&L's consultant MPR Associates Mr. J. Collins, Regulatory Operation reviewed the analysis performed by GE and concurred in the above evaluation.

New seat bushings were purchased to replace the cracked seat bushings.

All of the valves were decontaminated to the levels required for shipment to the vendors shop (Dresser) and inspected at the Todd Shipyard in Galveston, Texas. The valves were reinspected at the vendors shop and rebuilt using new or sound parts. The inspection included a dimensional check as well as a liquid penetrant check. The inspection at both Dresser and Todd were witnessed by JCP&L representatives. The relief set point was set to the specified value on steam (1212 to 1239 psig) and the equivalent cold nitorgen relief correlation was determined before the valves were returned to Oyster Creek. Mr. Ross stated that as expected the radiation level of the valves with cracked seat bushings was higher than the radiation level of the valves without cracks.

According to Mr. McCluskey, the vendors representative stated that the safety valves could be expected to weep when the reactor is pressurized in the cold condition for the hydro test (approximately 1050 psig). He recommended that the safety valves be gagged to prevent building up water on the outside of the seat bushing and this possible contribution to cracking, even though a 1/4" hole was drilled in the base of the safety valve to permit draining most of the leakage from this space in the valve. (See sketch below.)



28. Vibration Failure of Main Steam Line Vent (Letter from JCP&L January 12, 1972)

The pipe supports for this line were reinspected during the May - June 1972 outage. No problems were detected. According to Mr. Ross, OC does not have a program to systematically inspect all pipe hangers, however, a program is being established to inspect all pipe supports in the drywell. According to Mr. McCluskey, this program will be implemented during the Spring 1972 refueling outage.

29. Sensitivity of the Containment Leak Detection System

The only method that Oyster Creek has for determining leakage in the containment is based on the filling and pump out times of the drywell equipment drain tank and the floor drain sump. The equipment drain tank receives identified leakage from pumps and valves. (T.S. limit 25 gpm). Other leakage in the drywell is routed to the floor drain sump (T.S. limit 5 gpm). The leakage is calculated at least once per shift. The amount of water pumped out of the sump is measured and the total is shown on a flow integrator. The total flow over a four hour period is used to calculate the leakage rate. The floor drains sump has high and low level alarms connected to a timer that measures the filling time. The timer is set to alarm if the filling rate reaches 4 gpm (if the tank fills in less than 20 minutes). Based on the above, a 5 gpm unidentified leakage rate could be determined in approximately 16 minutes if the timer works - if not in four hours. At present the operation of the sump timer is not verified routinely, however, Mr. Ross stated that a surveillance program would be established to assure proper operation. Mr. Ross stated that with the present system, a 1 gpm leak can be determined with an accuracy of ± 0.1 gpm within 24 hours. With a 5 gpm leak, the accuracy is ± 0.02 gpm in 24 hours.

Jersey Central has previously committed itself to a research program to develop additional methods for determining leaks using grab samples of air and water. Mr. Ross stated that this program had not been successful and that the results would be reported in the January - June 1972 semi-annual report. Consideration is being given to installing a constant air monitor to determine particulate, iodine and gaseous activity. The lack of sufficient spare penetrations is the main drawback to this approach.

30. Loss of Secondary Containment Capability (Letter from JCP&L 4/20/72)

The 1-13 breaker for the reactor building ventilation supply fan was racked out to repair the fan motor on April 10, 1972. During a surveillance test of the radiation detectors in the reactor building on

April 11, 1972, the standby gas treatment system started as required; however, the dampers associated with the supply and did not close as required to complete isolation of the reactor building. The supply fan motor leads were removed and the breaker was racked in restoring the isolation circuit to normal. Caution tags were placed on the controls and the fans to identify the problem and to prevent recurrence.

General Electric has recommended modification to the isolation circuit (GE - FDI - 324, reactor building vent modification) to permit racking out the supply fan breakers without deactivating the reactor building isolation circuit. Caution tags were placed on the fan controls and standing order No. 14 was issued April 19, 1972 to administratively prevent deactivating the isolation circuit until the modifications are complete. According to Mr. Riggle the modifications will be complete by December 31, 1972.

31. Insufficient Restraint - Relief Valve Discharge Piping

According to Mr. Ross a design evaluation by MPR Associates of the reaction forces in the relief valve discharge piping indicated marginally insufficient restraint of the piping when the relief valves initially relieve (however, valves have been tested without any resulting damage to the piping). The corrective action was to add three hydraulic snubbers to one line and two hydraulic snubbers to the other line. Mr. McCluskey stated that JCP&L would submit a written report to the Commission by August 25, 1972 that included the basis for the re-evaluation and the justification of the adequacy of the corrective action.

32. Control Rods Settling at "02" Position following a Scram

Letter from JCP&L 1/25/72

Twenty-one control rod drives were changed out during the refueling outage including the four drives that settled at 02 position following a scarm. These four drives were dirty. Two of the four had one or more stop piston carbon seals broken and one had a carbon bushing broken. The cooling water orifice was plugged on one drive. All of the drives were rebuilt, and reinstalled and tested satisfactorily.

33. Exposures (Letter from JCP&L 8/10/72)

Film badge results received from Landauer on July 13, 1972 for the second quarter of 1972 showed that 11 employees received exposures in excess of 3 rems/quarter (3010 to 3360 mrem). The exposures of two employees were reported as 3000 mrem and 33 employees were reported with 1500 to 3000 mrem. Ten of the eleven employees with exposures in excess of 3 rem were maintenance mechanics and one was an HP technician. At the end of the inspection, film badge results had not been received for all employees. The inspector was subsequently informed by telephone August 4, 1972 by Mr. McCluskey that there were no other exposures in excess of 3 rem. Mr. Ross stated that individual records were kept for each employee and that estimated exposures (dosimeter readings) were limited to 2500 mrem until film badge results were received. After film badge results are received, additional radiation work may be permitted; however, no one is allowed to (knowingly) receive more than 3 rem. Previous comparisons have shown that the estimated exposures were higher than the film badge results. Mr. Ross stated that the high exposures were not tracable to a particular job during the outage, that each of the men had worked on several jobs and had had different assignments, however, the investigation of the high exposures was not complete.

Mr. McCluskey stated that the high exposures had been reported to Mr. Bovier, President JCP&L as required by the T. S. During a phone conversation on July 18, 1972, the inspector was informed that the GORB had been directed to perform a special investigation of the high exposures that were accumulated during the outage. Enclosure No. 1 is a list of the persons that received 3 rem exposure or greater during the April - June 1972 quarter.

34. Axial Flux Shape

Axial flux shapes are determined for the purpose of calculating the minimum critical heat flux ratio (MCHFR) using the traveling incore probe system (TIP). Normally the flux only has one peak region depending on the rod configuration. Enclosure No. 3 is a copy of a TIP trace with 2 peaks. Three of the adjacent rods are at 48 step (fully withdrawn) and one rod is at step 08. With this flux shape, the MCHFR was calculated to be 3.0 (Operating limit = 1.9).

Mr. Ross indicated the saddle flux shape is a bit unusual but it has been observed before.

35. Relay Failure in the Reactor Protection System

JCP&L letter June 26, 1972

An odor of warm electrical insulation was traced to the 6 K 28 relay on June 15, 1972. The relay was replaced and the new relay was checked for proper operation. The failure was reported to Licensing by letter dated June 26, 1972.

A subsequent investigation failed to show the cause of the odor and indicated that the relay was operable and would have performed its intended function.

The relay was a GE relay, type CR120A 022202AA.

In response to a question, Mr. McCluskey stated that the apparent failure was reported before the investigation was complete in order to comply with TS requirements for a 10 day written report. The relay was replaced while the plant was shutdown, however, the investigation of the cause of the relay failure was not completed until the plant was back on line.

36. Emergency Diesel Generator - Failure of Shutters to Open during Surveillance Test (JCP&L letter June 30, 1972)

The failure of the radiator shutter to open during a surveillance test on June 26, 1972, caused a high temperature alarm that tripped the EDG off line. The high temperature trip is only operable in the test mode - not in the emergency start mode.)

According to Mr. McCluskey and Mr. Riggle, JCP&L has asked the vendor (General Motors) for recommendation to prevent recurrence of this particular failure (failure of temperature sensor) and an auxiliary means for opening the radiator shutters.

According to Mr. McCluskey on August 1, 1972, a standing order No. 15 was issued to the operating personnel to provide interim operating instruction in the event of a trouble alarm on one of the EDG's when operating in the emergency start mode. The instructions require the control room operator to determine that all of the emergency equipment associated with the other EDG is operating normally, then from the control room shutdown the EDG with the trouble alarm and dispatch an operator to determine the cause of the alarm. If all of the equipment on the other EDG is not operating normally or if only one EDG is operating, the investigation of the cause of the trouble alarm will be conducted with the EDG running.

37. Paddle Type Flow Switches

Mr. Riggle stated that paddle type flow switches were installed in the inlet lines to the cleanup filters, seal leakage lines from the recirculation pumps, the injection line from the liquid poison system, and the discharge of the dilution pumps (outside the plant). Prints show that only the injection line from the liquid poison system has a direct path to the reactor if the paddle switch breaks. Pieces of other switches would be caught on filters or demineralizers before the pieces could get to the reactor.

Mr. McCluskey stated that the possibility of a broken paddle switch getting into the reactor from the liquid poison system would be presented to the Plant Operation Review Committee for review and recommendation.

38. Use of AC Rated Micro-Switches for DC Service

In response to a previous inquiry about micro-switches, Mr. Riggle stated that an investigation had shown that AC rated micro-switches were being used with the isolation condenser pressure switches. These micro-swithces on the isolation condenser were replaced with a DC rated micro-switch, Barksdale Model BZK-169 and was set to operate at the recommended 60% pull in voltage. Mr. Riggle stated that the survey is continuing to determine the number of other AC rated switches in DC service. Mr. McCluskey confirmed Mr. Riggles's statement that these switches will be replaced with the BZR-169 Model switch as surveillance tests are performed during the next three months.

39. Siphon Breakers for Spent Fuel Pool Fill Line

An inspection showed that a check valve is installed in each fill line (2) to the spent fuel pool, however, there are no provisions for checking the operability of these valves. After discussing the possibility of lowering the level of the spent fuel pool by siphon action, Mr. McCluskey agreed to investigate a method of checking the operability of the check valves or some other method of breaking a siphon.

40. Irradiation Test Specimen Holder

CO Report 219/71-04, Paragraph 6

Efforts to reinstall the specimen holder that was removed from the reactor during the September - October 1971 outage were unsuccessful at the time and again during the May - June 1972 outage. Another attempt will be made with special tools fabricated for this purpose during the planned April 1973 outage.

The results of the testing performed on the flux wire samples in the specimen holder have been received and are being reviewed by Jersey Central and General Electric. Following this review the results will be transmitted to the Commission by the Semi-Annual Report if the results are as predicted. Otherwise the irradiation sample results will be the subject of a special report according to Mr. Ross.

41 Relief Valve - Standby Liquid Control System

According to Mr. Riggle, OC does not have a schedule for checking the relief valves, on the liquid poison system and as such they have not been checked since plant startup (1969). It was pointed out to Mr. McCluskey that if the relief valves relieved at too low a pressure, there would not be enough force to inject the poison solution into the reactor under accident conditions. If the relief valves failed to relieve (high pressure) with the positive displacement pumps in the system, the pump or piping could rupture and allow the poison solution to be lost via the rupture. Mr. McCluskey agreed to review this matter and establish a test schedule as is appropriate.

ENCLOSURE NO. 1

Exposure (Film Badge Results)

April - June 1972

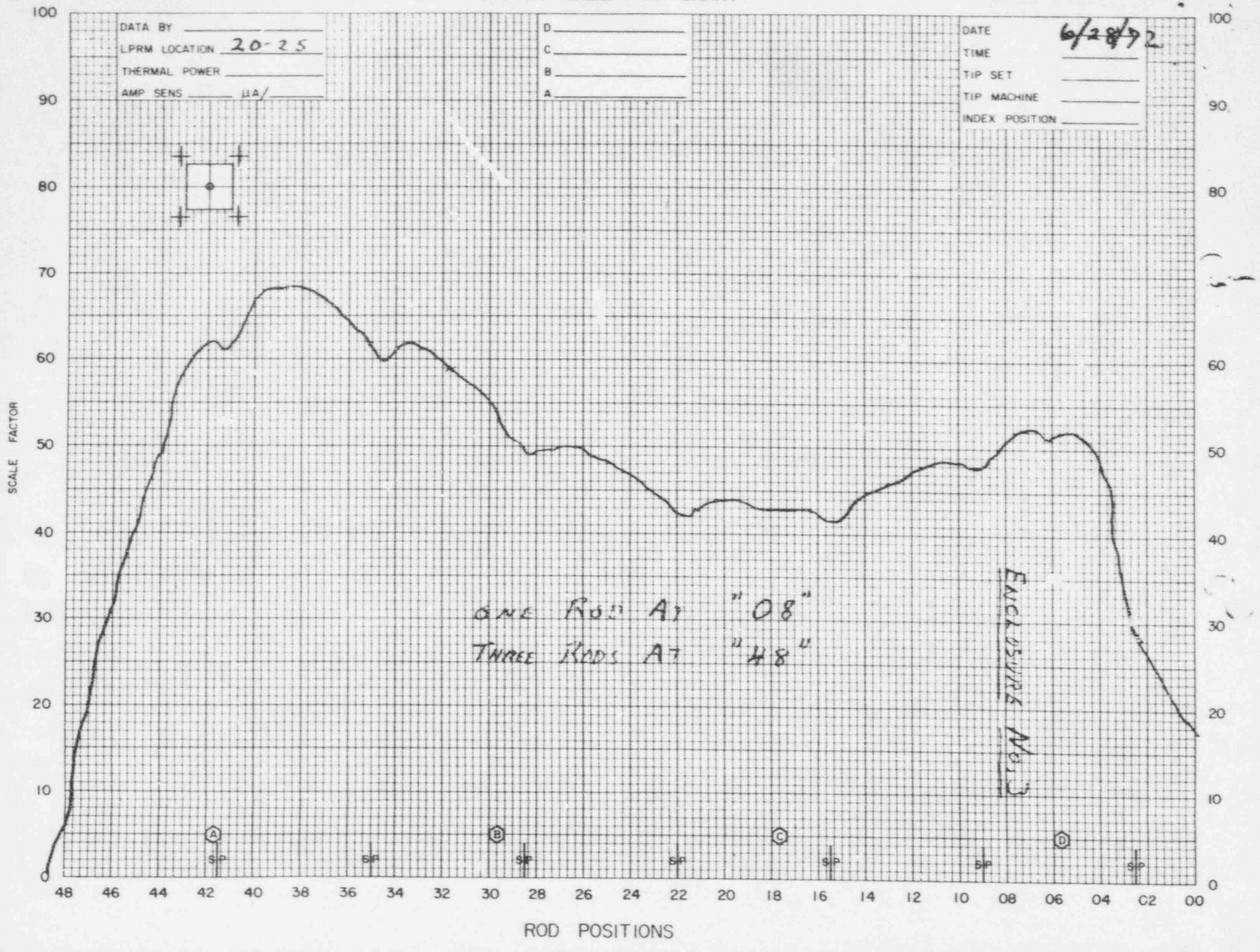
F. Anderson	3110
R. Keating	3050
R. Litson	3090
E. Wacha	3090
J. Keating	3150
F. Kossatz	3360
J. Buckalew	3050
R. Hoatson	3010
T. Johnson	3060
J. Groemm	3040
T. Rayment	3030
H. Wilkins	3000
A. Wacha	3000

ENCLOSURE NO. 2

Concentrator Work Exposure (Est)

Name	Exposure (Est) (mrem)
F. Anderson	345
H. Wilkins	445
E. Wacha	600
R. Litson	600
W. Muelheisen	710
B. Horner	390
B. Beer	555
G. Martin	590
H. Vogel	480
D. Staer	330
J. Buckalew	240
J. Keeting	205
R. Hoatson	460
Total	6 K

OYSTER CREEK TIP CHART



JERSEY CENTRAL POWER & LIGHT COMPANY
OYSTER CREEK NUCLEAR GENERATING STATION
DATA SHEET

MSIV LEAKAGE RATE IN SCFH

TEST	DATE	VALVE IDENTICATION							
		NS03A		NS03B		NS04A		NS04B	
JULY	1969	<0.1 (1)		<0.1 (1)		1.15		0.82	
FEBRUARY	1970	<0.1		<0.1 (1)		<0.3 (2)		<0.3 (2)	
MAY	1970	<0.1 (4)		<0.1 (3,4)		<0.3 (4)		1.5 (3,4)	
OCTOBER	1970	<0.1		0.7		0.9		8.8	
FEBRUARY	1971	<0.1		<0.1 (5)		3.6		4.3	
lovember	1971	<0.1		<0.1 (5)		2.1		4.2	
June	1972	<0.1		<0.1 (1,5)		5.4		1.3	

(1) LAPPED SEAT
(2) LAPPED SEAT PEDESTAL SUPPORT BRACKET GROUND
(3) STEM MACHINED TO INCREASE CLEARANCES
(4) SPRING HANGAR ON VALVE OPERATOR REMOVED
(5) Stem straightened

ENCLOSURE NO 4

DAROSS
6-19-72

OCT 6 1972

J. G. Keppler, Chief, Reactor Testing & Operations Branch
Directorate of Regulatory Operations, HQ

RO INQUIRY REPORT NO. 50-219/72-31Q
JERSEY CENTRAL POWER AND LIGHT COMPANY
OYSTER CREEK - BWR
EXCEED TECHNICAL SPECIFICATIONS - BOTH LIQUID POISON PUMPS INOPERABLE

The subject inquiry report is forwarded for your action in that this problem may be generic. As previously reported in Inquiry Report No. 50-219/72-06, the effectiveness of the standby gas treatment system was compromised when the integrity of secondary containment was violated by the failure of the reactor building ventilation supply fan dampers to close when the standby gas treatment system was initiated during a surveillance test. This failure of the dampers to close was caused by racking out one of the supply fan power breakers, which defeated the logic for closing the supply dampers. This may be generic in the design of GE supplied equipment or in the equipment designed by Burns & Roe. In addition, the Technical Specifications require specific surveillance tests be conducted when specific pieces of safeguards equipment are inoperable if reactor operation is to continue; however, the Technical Specifications do not require that this surveillance be made immediately. It is recommended that future Technical Specifications be written to clearly identify the requirem[illegible]o immediately confirm the operability of redundant equipment when [illegible]erability is required for continued plant operation.

The licensee plans to conduct an investigation to determine if other safeguards equipment has protective functions wired through power breakers that could be defeated if a power breaker is racked out. The results of this investigation will be included in the written report to the Directorate of Licensing. We plan to review this matter of prompt surveillance testing of safeguards equipment (when required) during the next routine inspection.

~~8303310015~~ 2pp.

B1359

OFFICE ▶	CRESS I					
SURNAME ▶	Baunack:dw	RHC for Carlson	JPK			
DATE ▶	10-6-72					

Distribution of the subject report is being made to the PDR, LPDR, NSIC, DTIE and State of New Jersey, after the licensee has reviewed it for proprietary information.

R. T. Carlson, Chief
Reactor Operations Branch

Enclosure:
Subject Inquiry Report (21 cys)

cc: RO:HQ (5)

UNITED STATES
ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION 1
970 BROAD STREET
NEWARK, NEW JERSEY 07102

RO Inquiry Report No. 50-219/72-31Q

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

License No.: DPR-16

Facility: Oyster Creek - BWR
Forked River, New Jersey

Descriptive Title: Exceed Technical Specifications - Both Liquid Poison Pumps Inoperable

Prepared by: F. S. Cantrell, Reactor Inspector 10/5/72
Date

A. Date and Manner AEC was Informed:

September 26, 1972, by telephone call from the licensee.

B. Description of Particular Event or Circumstance:

The "A" liquid poison pump was removed from service and its breaker racked out at 10:45 a.m., September 25, 1972, to repack the pump seals. Technical Specification 3.2.C requires a daily check of the operable liquid poison system pump when the reactor is operating if one pumping circuit becomes inoperable. The first surveillance check on the "B" pump was conducted at 4:20 a.m., September 26. At that time, the "B" pump would not start. A controlled shutdown was initiated immediately. At 4:32 a.m. the breaker for the "A" pump was racked in and the "B" pump was started and demonstrated to be operable. Power had been decreased from 655 MWe to 645 MWe, and at that time, the controlled shutdown was terminated.

C. Action by Licensee:

1. Only one liquid poison pump is needed to inject the contents of the

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liquid poison system into the reactor in the required time. An interlock is provided in order to prevent operating both pumps at one time. This interlock operates through a contact on the power breaker of each pump, and when the breaker is racked out, neither pump will start. In order to complete repairs to the "A" liquid poison pump, the starting permissive for the "B" pump was restored by jumpering the interlock contact on the "A" pump power breaker during the repair period.

2. Operating personnel have been instructed that when daily surveillance checks of safeguards equipment are required because of other inoperable equipment, the surveillance check must be performed immediately when the inoperable condition is determined and daily thereafter when the reactor is in operation.

3. The licensee plans to check other safeguard equipment to determine if any safety functions are wired through the power breakers such that the safety function of operable equipment would be defeated when the power breaker for the inoperable equipment is racked out.

4. The licensee plans to modify the interlocks for the "A" and "B" liquid poison pumps to prevent defeating the starting logic for the operable pump when the power breaker for either pump is racked out.

5. The licensee will submit a written report to the Directorate of Licensing within 10 days as required by the Technical Specifications.

SEP 26 1972

J. G. Keppler, Chief, Reactor Testing & Operations Branch
Directorate of Regulatory Operations, HQ

RO INQUIRY REPORT NO. 50-219/72-30
JERSEY CENTRAL POWER & LIGHT COMPANY
OYSTER CREEK - BWR
EXCEED TECHNICAL SPECIFICATION LIMITS - RAD WASTE STORAGE TANK INVENTORY

The subject inquiry report is forwarded for your information.

This makes the third time (IR No. 50-219/72-18 and 50-219/72-27) since the Technical Specification limit for tank farm inventory was increased from 0.7 Ci to 10.0 Ci that the new limit has been exceeded. The licensee was again informed of our concerns regarding the apparent inability of Jersey Central to implement effective controls with regard to rad waste storage tank inventory. Mr. McCluskey stated that Jersey Central was putting forth efforts to correct the general problem and that this included the help of their consultants, MPR Associates, for both short range and long range measures. He reiterated the views expressed by Mr. Ross at the time of the last incident, to the effect that although this occasion was more in the line of a "one of a kind" occurrence, it still reflected negatively overall and that both he and his management shared the concern expressed by RO:I. Further, that this would be factored into the review of the incident by the Plant Operating Review Committee. The writer requested that the General Office Review Board be informed of RO:I views with respect to these occurrences. Mr. McCluskey stated that the GORB was scheduled to meet on September 22 and that they would be so informed.

We intend to continue following the licensee's actions with respect to this general problem and will keep your office informed as is appropriate. As is noted in the report, the licensee will submit a written report within ten days as required by the Technical Specifications.

R. T. Carlson, Acting Senior
Reactor Inspector

Enclosure:
Subject Inquiry Report (original and 1 cy)

B/360

cc: P. Morris, RO

OFFICE ▶	CRESS I					
SURNAME ▶	Carlson/ds					
DATE ▶	9/26/72					

Form AEC-318 (Rev. 9-53) AECM 0240

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H. Thornburg, RO
R. Engelken, RO
R. Minogue, RS (3)
R. Boyd, L (2)
R. DeYoung, L (2)
D. Skovholt, L (3)
H. Denton, L (2)
RO Files
DR Central Files

RO INQUIRY REPORT NO. 50-219/72-30

Subject: Jersey Central Power & Light Company

Facility: Oyster Creek - BWR

License No.: DPR-16

Title: Exceed Technical Specification Limits - Rad Waste Storage Tank Inventory

Prepared by: ______________________________ ____________

R. T. Carlson, Acting Senior, Reactor Inspector Date

A. Date and Manner AEC was Informed:

September 21, 1972, by telephone call from Mr. T. J. McCluskey, Plant Superintendent.

B. Description of Particular Event or Circumstance:

The inventory of the outside rad waste storage tank farm was found to be 27.74 Ci when a sample of the contents taken at 8:00 a.m. on September 20 was analyzed. Technical Specification paragraph 3.6.C limits inventory to 10.0 Ci and directs that the contents be recycled if the inventory exceeds 5.0 Ci. During operations in the rad waste area on the weekend of September 16 and 17, a transfer cart moving a drum of liquid waste sludge tipped, dropping the drum and spilling the contents. Significant decontamination was necessary in order to affect repairs to equipment damaged in the incident. Drumming operations were halted, pending completion of this work. Processing of the liquid waste generated as a result of the clean up operation resulted in the violation.

C. Action by Licensee:

Recycling of the tank farm contents had reduced the inventory to less than 10 Ci by 11:00 p.m. on September 20 and to 5 Ci by 3:00 a.m. on September 21. As in previous cases, some of the excess inventory was also being trucked off site by the licensee's rad waste contractor, Nuclear Engineering Corporation. The Plant Operating Review Committee and the General Office Review Board will review this violation. The licensee will submit a ten day written report of this occurrence to Licensing.

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SEP 21 1972

J. G. Keppler, Chief, Reactor Testing & Operations Branch
Directorate of Regulatory Operations, HQ

RO INQUIRY REPORT NO. 50-219/72-29
JERSEY CENTRAL POWER & LIGHT COMPANY
OYSTER CREEK - BWR
EQUIPMENT FAILURE - RANDOM SCRAM OF INDIVIDUAL CONTROL RODS

The subject inquiry report is forwarded for your information.

Mr. McCluskey was on vacation during the period of the scram and upon return from vacation, was called to jury duty for over a week. Mr. McCluskey stated that the scram was reviewed by the PORC while he was away and was not considered reportable; however, he agreed that the sequence of events was unusual. Upon further reflection, he agreed to submit a written report to Licensing, describing the events that led up to the scram, within 10 days. While we are of the view that the event was reportable under the TS, we agreed that a citation would not be made if the report was submitted as agreed. We plan to reveiw this matter during the next inspection.

R. T. Carlson, Acting
Senior Reactor Inspector
Reactor Operations Branch

Enclosure:
Subject Inquiry Report

cc: P. Morris, RO
H. Thornburg, RO
R. Engelken, RO
R. Minogue, RS (3)
R. Boyd, L (2)
R. DeYoung, L (2)
D. Skovholt, L (3)
H. Denton, L (2)
RO Files
DR Central Files

B136

OFFICE ▶	CRESS:I					
SURNAME ▶	RC Carlson:ss					
DATE ▶	9/20/72					

Form AEC-318 (Rev. 9-53) AECM 0240

8303310055 4p.

RO Inquiry Report No. 50-219/72-29

Subject: Jersey Central Power & Light Company

Facility: Oyster Creek - BWR

License No.: DPR-16

Title: Equipment Failure - Random Scram of Individual Control Rods

Prepared by: ______________________ ______________
F. S. Cantrell, Reactor Inspector Date

A. Date and Manner AEC was Informed:

September 14, 1972 by telephone call from Mr. T. J. McCluskey, Station Superintendent.

B. Description of Particular Event or Circumstance:

With the reactor operating at 1900 MWt, a low water level in the reactor initiated a reactor scram on August 25, 1972. An investigation disclosed a loose wire on a 3-way solenoid valve (NC 16 B) that supplies air to the scram valve pilot air header. The loose wire caused the solenoid to deenergize and close the air supply. Leakage from this header caused the air pressure in the header to drop to the point that individual control rod scram solenoids were operating to drive the control rods into the reactor. Sufficient rods drove in to cause the reactor level to drop to the initiation point of a low water level scram (minimum level reached was 9 feet 2 inches above the fuel).

C. Action by Licensee:

The loose wire was believed to be caused by vibration. Other connections were checked for tightness. After returning the reactor to hot standby conditions, scram times were measured for the six of the eight monitored rods that scrammed individually prior to the low reactor level scram. The average scram time was 2.68 seconds.

AUG 23 1972

J. G. Keppler, Chief, Reactor Testing & Operations Branch
Directorate of Regulatory Operations, HQ

RO INQUIRY REPORT NO. 219/72-28
JERSEY CENTRAL POWER & LIGHT COMPANY
OYSTER CREEK 1 - BWR
OTHER - DEATH BY DROWNING IN INTAKE CANAL

The subject inquiry report is forwarded for your information.

Copies of the two newspaper reports of the drowning are attached to your copy of this inquiry report. The newspaper did not connect the event with Oyster Creek Nuclear Generating Station.

We agree with the licensee that a written report is not required. We do not plan any further action.

R. T. Carlson, Acting Senior
Reactor Inspector

Enclosures:
1. Subject Inquiry Report
2. Asbury Park Sunday Press Article dated August 20, 1972
3. Sunday Star Ledger Article dated August 20, 1972

cc: P. Morris, RO
H. Thornburg, RO
R. Engelken, RO
R. Minogue, RS (3)
R. Boyd, L (2)
R. DeYoung, L (2)
D. Skovholt, L (3)
H. Denton, L (2)
RO Files
DR Central Files

B/362

OFFICE ▶	CRESS I					
SURNAME ▶	Cantrell:ds	Carlson				
DATE ▶	8/23/72					

Form AEC-318 (Rev. 9-53) AECM 0240

8303310071 4p.

RO INQUIRY REPORT NO. 219/72-28

Subject: Jersey Central Power & Light Company

Facility: Oyster Creek 1

License No.: DPR-16

Descriptive Title: Other - Death By Drowning In Intake Canal

Prepared by: ______________________________ ______________
Floyd S. Cantrell, Reactor Inspector Date

A. Date and Manner AEC was Informed:

August 19, 1972, by telephone call from Mr. T. J. McClusky, Station Superintendent, to Mr. J. P. O'Reilly, Director, Region I. Additional information was provided in telephone conversation between the assigned inspector and Mr. McClusky on August 21, 1972.

B. Description of Particular Event or Circumstance:

At approximately 10 a.m. on August 21, while crabbing from a pipeline across the south branch of Forked River, which is the intake canal for Oyster Creek Nuclear Generator Station, an eleven year old boy fell in the water. A man in the same party attempted to help the boy to shore, but collapsed from exhaustion and drowned. Efforts by other members of the party to aid the victim were unsuccessful. The body was found by a state marine police scuba diving team, down stream about equal distance between the pipeline and the plant intake screens (400 yards apart). The Sunday Star-Ledger identified the victim as Ismael Lugos, age 23.

Oyster Creek was at full power at the time of the incident, with one dilution pump operating.

C. Action by Licensee:

1. The licensee assisted local authorities.

2. The licensee telephoned Region I to report the incident for information only.

3. The licensee does not consider the matter to require a written report.

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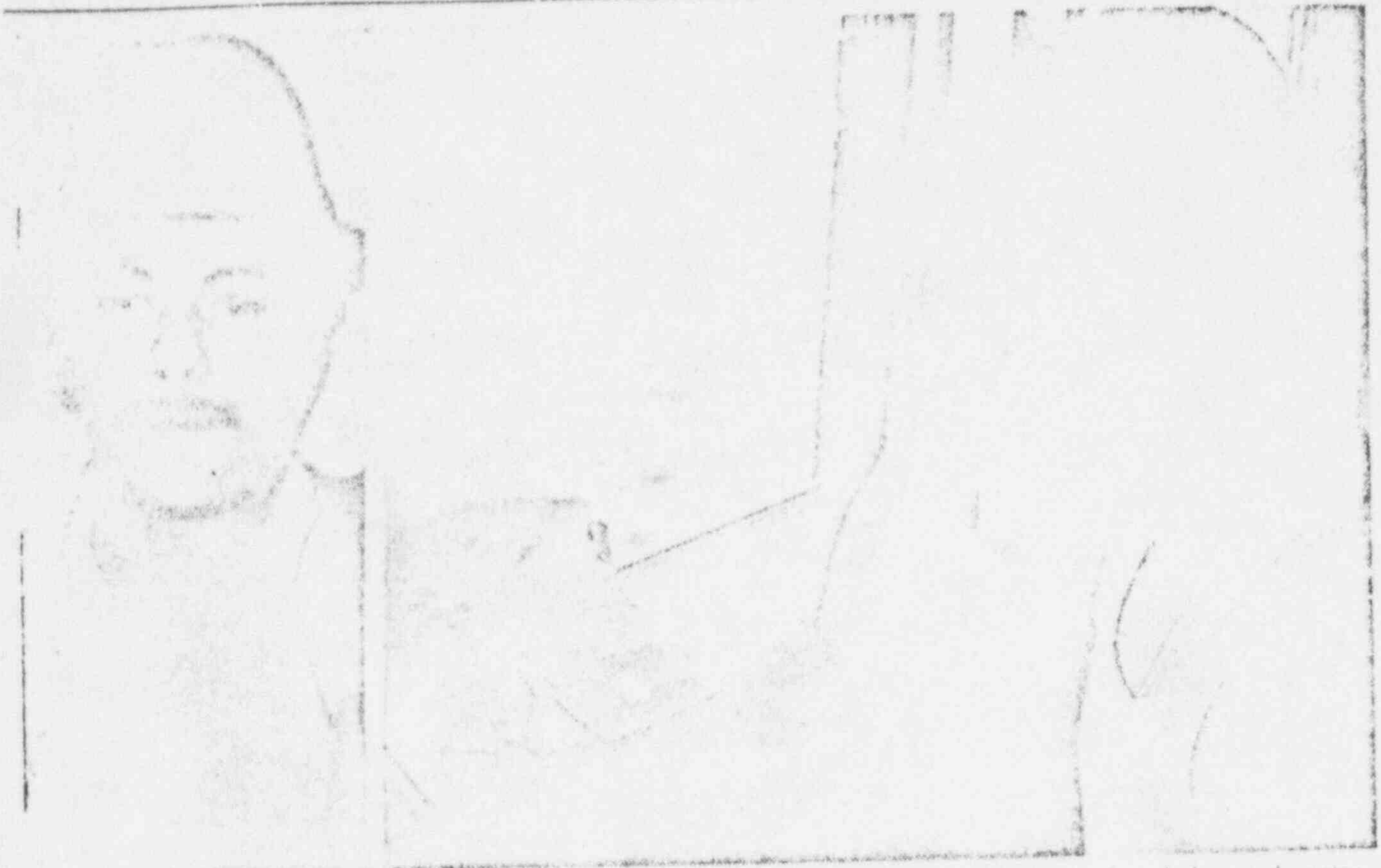
PARK SUNDAY PRESS

ASBURY PARK, N.J., SUNDAY, AUGUST 20, 1972



Victor Gerena, 11, views photos of his family and friend, Ismael Lugos (left), who collapsed and drowned yesterday after pulling Victor to safety in Forked River, Lacey Township. Mr. Lugos and the Gerena family, who lived in the same Bronx, N.Y., apartment house had been crabbing in the river. (AP)

Man Dies Saving Life Of Boy, 11

LACEY TOWNSHIP — A 23-year-old Bronx man drowned in the south branch of Forked River yesterday after saving an 11-year-old neighbor.

Police said the victim, Ismael Lugos, jumped into the 15-foot-deep water after the boy, Victor Gerena, had fallen from a gas pipe spanning the river.

Mr. Lugos, pulling the boy on his back, swam toward shore where another friend and a bystander pulled Victor to safety. But Mr. Lugos, apparently fatigued, collapsed and drowned.

"He gave his life for the boy," said Sgt. L. William Beecroft.

The friend, Luis Velez, 26, and Army Sgt. Roger W. Curtis, Pemberton Township, tried to save Mr. Lugos but were unable to do so.

Authorities were unsure how the boy happened to be on the gas pipe. Although the pipe is occasionally used by crabbers, crabbers more frequently drop their lines from a seldom used railroad bridge.

The Lacey Township First Aid Squad had scuba divers in the water for about one hour, shortly after the drowning happened at 10 a.m.

But they were unable to find Mr. Lugos' body. They were joined, in the afternoon, by state Marine Police and by a state police scuba diving team. Phillip Powell and James Kovlioas recovered the body, police said, at about 1 p.m.

Authorities said Victor, his parents, Mr. Lugos and Mr. Velez live in the same apartment complex in the Bronx. They had driven here [illegible] yesterday, said police, to fish and crab.

Associated Press Wirephoto

Victor Gerena, 11, sits in his Bronx home after being saved from drowning

Rescuer drowns as boy is saved

A 23-year-old Bronx man drowned in the south branch of the Forked River in Lacey Township, Ocean County, yesterday after rescuing an 11-year-old boy, the police said.

The victim, Ismael Lugos, had been crabbing with the boy, Victor Gerena, the boy's parents and another friend, Luis Velez, all of whom were neighbors in the Bronx, police said.

Lugos dived into the water after the boy fell from a gas pipe spanning the river. He managed to tow the boy to safety on his back, but after Velez and a bystander pulled the boy ashore, the exhausted Lugos collapsed in the 15-foot-deep river, the police said.

Velez, 20, and Army Sgt. Roger Curtis of Pemberton tried to save Lugos but failed. His body was recovered several hours later by a scuba diving team.

AUG 22 1972

J. G. Keppler, Chief, Reactor Testing & Operations Branch
Directorate of Regulatory Operations, HQ

RO INQUIRY REPORT NO. 50-219/72-27
JERSEY CENTRAL POWER & LIGHT COMPANY
OYSTER CREEK - BWR
EXCEED TECHNICAL SPECIFICATION LIMITS - RADWASTE STORAGE TANK INVENTORY

The subject inquiry report is forwarded for your information.

This is the second time (IR No. 50-219/72-18) since the Technical Specification limit for tank farm inventory was increased from 0.7 Ci to 10.0 Ci that the new limit has been exceeded. The 0.7 Ci limit had been exceeded several times previously. Mr. Ross was informed of our concern regarding the apparent inability of Jersey Central to implement effective controls in this area, and that we needed to be provided assurance that adequate steps would be taken to prevent further such occurrences. Mr. Ross stated that both he and his management shared these concerns and that this would be factored into PORC's review of the subject occurrence, to be conducted on August 21 or 22. He stated that Region I would be informed of the results of this review.

We intend to follow closely the licensee's investigation and evaluation of this latest occurrence and will keep your office informed as is appropriate. As is noted in the report, the licensee will submit a written report within 10 days, as required by the Technical Specifications.

R. T. Carlson, Chief,
Reactor Operations Branch

Enclosure:
Subject Inquiry Report

cc: R. Minogue, RS (3)
R. S. Boyd, L (2)
R. C. DeYoung, L (2)
D. J. Skovholt, L (3)
H. R. Denton, L (2)
P. A. Morris, RO
H. D. Thornburg, RO
R. H. Engelken, RO
RO Files
DR Central Files

B/363

OFFICE ▶		CRESS:I			
SURNAME ▶		Carlson:ss			
DATE ▶		8/22/72			

Form AEC-318 (Rev. 9-53) AECM 0240

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RO Inquiry Report No. 50-219/72-27

Subject: Jersey Central Power & Light Company

Facility: Oyster Creek - BWR

License No.: DPR-16

Title: Exceed Technical Specification Limits - Radwaste Storage Tank Inventory

Prepared by: R. T. Carlson   Date

A. Date and Manner AEC was Informed:

August 18, 1972, by telephone call from Mr. D. Ross, Assistant Plant Superintendent.

B. Description of Particular Event or Circumstance:

The inventory of the outside rad waste tank farm was 13.0 Ci when the contents were analyzed at 8:30 a.m. on August 18. Technical Specification paragraph 3.6.C limits inventory to 10.0 Ci and directs that the contents be recycled if the inventory exceeds 5.0 Ci. The cause for the excessive inventory was attributed to an operator error that permitted the overflowing of the waste concentrator tank and thence via the rad waste floor sump to the subject storage tanks.

C. Action by Licensee:

Recycling of the tank farm contents had reduced the inventory to 10.5 Ci at the time of the call. The licensee estimated that the inventory would be reduced below 10.0 Ci within an additional four hours and below 5.0 Ci within 24 to 36 hours. The operation was being performed around the clock. Some of the excess inventory was to be trucked off site by the licensee's rad waste contractor, Nuclear Engineering Corporation. The Plant Operating Review Committee will review this violation. The licensee will submit a 10-day written report of this occurrence to Licensing.

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J. G. Keppler, Chief, Reactor Testing & Operations Branch
Directorate of Regulatory Operations, HQ

RO INQUIRY REPORT NO. 50-219/72-26
JERSEY CENTRAL POWER & LIGHT COMPANY
OYSTER CREEK - BWR
EQUIPMENT FAILURE - CONTROLS FOR CONTROL ROD DRIVES

The subject inquiry report is forwarded for your information.

The licensee has researched this problem and considers it unusual in nature, but not a particularly serious one in that the control rods could still be scrammed. His proposed action in case of a future switch failure with the reactor at power, i.e., to replace the defective switch without a shutdown, is acceptable to us on the basis that in any case it would be necessary to jumper the failed switch in order to effect a shutdown by normal means. Reactivity changes can still be effected by recirculation pump flow.

We are of the view that this failure should be reported in writing and are encouraging the licensee to do so. As a minimum, this matter will be reviewed during the next inspection.

R. T. Carlson, Chief
Reactor Operations Branch

Enclosure:
Subject Inquiry Report

cc: R. Minogue, RS (3)
R. S. Boyd, L (2)
R. C. DeYoung, L (2)
D. J. Skovholt, L (3)
H. R. Denton, L (2)
P. A. Morris, RO
H. D. Thornburg, RO
R. H. Engelken, RO
RO Files
DR Central Files

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OFFICE ▶	RO	
SURNAME ▶	Cantrell:smg	Carlson
DATE ▶	8/16/72	

RO Inquiry Report No. 50-219/72-26

Subject: Jersey Central Power & Light Company

Facility: Oyster Creek - BWR

License No.: DPR-16

Prepared by: ______________________ ________
F. S. Cantrell, Reactor Inspector Date

A. Date and Manner AEC was Informed:

August 15, 1972, by telephone call from Mr. T. J. McCluskey, Station Superintendent.

B. Description of Particular Event or Circumstance:

With the reactor at low power and while increasing temperature, the selector switch for control rod drive 14-11 failed in such a manner that the drive control was locked in that control rod. Under this condition (open circuit), it was not possible to select any other control rod for insertion or removal. All control rods could still be scrammed; however, because the reactor pressure was low at this particular time, a decision was made to jumper the switch such that other rods could be selected for operation and to shut down in a normal fashion.

C. Action by Licensee:

1. After the plant was in a cold shutdown condition, the selector switch was replaced.

2. The circumstances relating to the problem were subsequently reviewed by the Plant Operations Review Committee which concluded that the proper course of action had been taken.

3. The failure was discussed with the General Electric Company, which stated that this particular problem had been reviewed with Licensing in the original application. JCP&L concluded that if a failure occurred with the reactor operating at power, the correct action would be to jumper and replace the selector switch while at power rather than to shut down for switch replacement.

4. A procedure will be generated to cover any future replacements of this switch.

5. The licensee is considering submitting an informational report to the Commission concerning this failure.

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