



UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON, D.C. 20545

March 30, 1972

D. J. Skovholt, Assistant Director for Reactor Operations, DRL(3)

JERSEY CENTRAL POWER AND LIGHT COMPANY (OYSTER CREEK) - COMPLIANCE  
REPORT NO. 50-219/72-01

The enclosed report of a special inspection of the subject facility on February 7, 1972, is forwarded for information. The purpose of this inspection was to review the details relating to the January 28, 1972 fish kill incident at Oyster Creek. No items of noncompliance with Regulatory requirements were identified during the inspection.

Based on the investigations conducted by the licensee and by the State of New Jersey, it appears that the reactor shutdown contributed significantly to the localized fish kills (negative thermal pollution). We understand that this and other environmental matters will be considered further by DRL and DREP in the review of the full term license application, submitted by Jersey Central on March 6, 1972.

Preliminary information concerning this incident was contained in my February 16, 1972 memorandum to you forwarding CO Inquiry Report No. 50-219/72-03, and my March 10, 1972 note to A. Giambusso. We plan no further action with regard to this matter; however, if you desire additional information, please let us know.

*J. H. Engelken for*  
R. H. Engelken, Assistant Director  
for Inspection and Enforcement  
Division of Compliance

Enclosure:  
CO Report No. 50-219/72-01

cc: E. G. Case, DRS (3)  
R. S. Boyd, DRL (2)  
R. C. DeYoung, DRL(2)  
H. R. Denton, DRL  
L. Rogers, REP  
A. Giambusso, REP  
D. R. Muller, REP  
S. Levine, DEA  
R. Schemel, DRL  
L. Kornblith, Jr., CO, w/o encl.  
Regional Directors  
DR Central Files

MAR 16 1972

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J. G. Keppler, Chief, Reactor Testing & Operations Br.  
Division of Compliance, HQ

CO INQUIRY REPORT NO. 50-219/72-05  
JERSEY CENTRAL POWER & LIGHT COMPANY  
OYSTER CREEK - BWR  
OTHER - INCREASE IN STACK RELEASE RATE

The subject inquiry report is forwarded for your information.

This increase in release rate near the end of the fuel cycle was expected considering the known condition of the fuel in the reactor. A refueling outage is scheduled for April 21, 1972. Mr. McCluskey stated that the increase noted on March 15, 1972 was unusual and may have indicated an additional failure.

In reply to questions about Jersey Central's plans, Mr. McCluskey would not commit Jersey Central to any action to minimize release rates other than to remain below Technical Specification limits.

We plan to contact the Health and Safety Laboratory to see what their schedule is for retrieving radiation data from the vicinity of Oyster Creek. We will keep you informed of their findings and any new developments as is appropriate. The matter of stack release rates has been and will continue to be followed closely during our inspection program at this facility.

R. T. Carlson  
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, DRL (2)
- L. Kornblith, CO
- R. H. Engelman, CO
- Regional Directors, CO

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OFFICE ▶	CO Files	CO		
SURNAME ▶	DR Central Files	Cantrell:smg	Carlson	
DATE ▶		3/16/72	<i>JK</i>	

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MAR 6 1972

J. G. Keppler, Chief, Reactor Testing & Operations Br.  
Division of Compliance, HQ

CO INQUIRY REPORT NO. 50-219/72-04  
JERSEY CENTRAL POWER & LIGHT COMPANY  
OYSTER CREEK - BWR  
EQUIPMENT FAILURE - FAILURE OF SCRAM DUMP VOLUME LEVEL SWITCH

The subject inquiry report is forwarded for your information.

We consider the action by the licensee to be appropriate.

We do not plan any further action with regard to this specific problem. The licensee stated that a written report would be submitted to DRL within 30 days.

R. T. Carlson  
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, DRL (2)
- L. Kornblith, CO
- R. H. Engelken, CO
- Regional Directors, CO
- CO Files
- DR Central Files

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OFFICE ▶	CO				
SURNAME ▶	<i>smg</i> Cantrell:smg	<i>for</i> Carlson			
DATE ▶	3/6/72				

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Subject: Jersey Central Power & Light Company

License No.: DPR-16

Facility: Oyster Creek - BWR

Title: Equipment Failure - Failure of Scram Dump Volume Level Switch

Prepared by: F. S. Cantrell, Reactor Inspector

3/10/72  
Date

A. Date & Manner AEC was Informed:

By telephone call from Mr. T. McCluskey, Station Superintendent, on March 2, 1972.

B. Description of Particular Event or Circumstance:

During a routine surveillance test on March 1, 1972, one of the four scram dump volume level switches failed to respond to a simulated high level signal. The cause of the failure was determined to be an improper tilt of the switch arm assembly. The mercury could not make proper contact to initiate a high level signal. (An abnormally high level in this tank could cause an increase in the control rod scram time.) This condition was corrected.

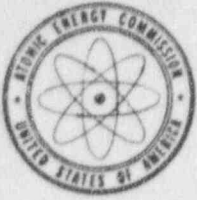
C. Action by Licensee:

Replacement switches were ordered and will be installed when received.

The failure will be investigated by the Plant Operations Review Committee.

The licensee will submit a written report on this occurrence to DRL within 30 days.





UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON, D.C. 20545

February 23, 1972

Note to File: *J. G. Keppler*  
THRU: J. G. Keppler, Chief, Reactor Testing and Operations  
Branch, CO

OYSTER CREEK - CO INQUIRY REPORT NO. 50-219/72-02<sup>2</sup>

The subject inquiry report that was forwarded to Headquarters for action contains a recommendation relating to a possible restriction on the main condenser differential temperature at all power reactors. A specific recommendation regarding the Oyster Creek facility was forwarded to DRL in the Headquarters' transmittal memorandum for the subject inquiry report. No further action is planned at this time for the other power reactors because DREP is considering the effect of temperature change on biota during the environmental review of each facility.

*F. J. Nolan*  
F. J. Nolan, Senior Reactor  
Inspection Specialist  
Division of Compliance

cc: J. P. O'Reilly, CO:I  
R. T. Carlson, CO:I  
~~P. S. Cantrell, CO:I~~

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FEB 9 1972

J. G. Keppler, Chief, Reactor Testing & Operations Br.  
Division of Compliance, HQ

CO INQUIRY REPORT NO. 50-219/72-03  
JERSEY CENTRAL POWER & LIGHT COMPANY  
OYSTER CREEK 1 - BWR  
FISHKILL FROM SUDDEN DROP IN COOLING WATER TEMPERATURE

The subject inquiry report is forwarded for action. The effects of the 25°F delta temperature across the condenser appears to be a contributing factor to the fishkill. Checks of comparable plants show that the condenser delta temperatures range from 15° to 32°F. Consideration to restricting the condenser delta temperatures at all power reactors may be appropriate.

Our inspector reviewed records of plant releases and inlet and outlet circulating temperature charts. The data appears to show a "cause and effect" relationship between cooling water temperature and the dead fish. The temperature recorder on the condenser indicated that the inlet cooling water temperature dropped drastically during the two days prior to the shutdown. Mr. McCluskey stated that at this time, the inlet water temperature was near the threshold where the warm water fish can not survive. Paul Hamer, Marine Biologist for the State of New Jersey, was reported in the Trenton Sunday Times Advertiser to have stated that 99.9% of the dead fish were menhaden. In that article, he estimated there were 200,000 dead fish. To our knowledge, this is the highest fishkill estimate.

Discussion with New Jersey State officials revealed that a laboratory analysis of samples of dead fish is in progress. They have agreed to supply the results of this analysis to Region I Compliance.

A licensee report to DRL on this matter is anticipated; even though it is not a specific Regulatory requirement.

OFFICE ▶	CO			
SURNAME ▶	Cantrell:smg			
DATE ▶	2/9/72			

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Upon receipt of the New Jersey State Laboratory results and the Jersey Central report, a decision will be made relative to the need for additional action.

An inspection report relating to this subject is being prepared on a priority basis.

F. S. Cantrell  
Acting Sr. Reactor Inspector

Enclosure:  
Subject Inquiry Report (18 cys)

cc: L. Kornblith, CO  
R. H. Engelken, CO  
CO Files



Subject: Jersey Central Power & Light Company

License No.: DPR-16

Facility: Oyster Creek 1 - PWR

Title: Fishkill from Sudden Drop in Cooling Water Temperature

Prepared by: F. S. Cantrell, Reactor Inspector

Date

R

A. Date & Manner AEC was Informed:

By telephone calls from Mr. T. McCluskey, Station Superintendent, to Mr. C. Madsen on February 1, 1972. Additional information was obtained by telephone calls to Mr. McCluskey and Mr. D. Ross, Technical Supervisor, on February 4, 1972. Other details were obtained in a special inspection at the site on February 7, 1972.

B. Description of Particular Event or Circumstance:

A feature article in the Asbury Park Sunday Press on January 30, 1972 discussed a "big fish kill found near nuclear plant" (Oyster Creek). Accompanying pictures showed dead fish in coves off Barnegat Bay between the discharge canal and the inlet canal. Similar articles appeared in other daily area newspapers. During the following week, the cause of the fish kill was attributed to the sudden cooling of the water in the discharge canal when Oyster Creek was shut down for maintenance work.

Plant records show that a power reduction started at 10:30 pm on January 27, 1972 and the plant was taken off line at approximately 4:30 am on January 28, 1972. The generator was put back on line at 4:28 am on January 31, 1972. Temperature charts at the plant show that the condenser inlet temperature (which is representative of the bay temperature) dropped from 47°F to 36°F between 4:00 pm January 25 and 4:30 am January 27, 1972. At full power, the delta T across the condenser was 25°F, giving an outlet temperature of 61°F on January 27, 1972. When the plant was taken off line, the outlet temperature dropped an additional 25°F to approximately 36°F. Three condenser circulating pumps and a dilution pump were operating prior to and

during most of the outage period with a total flow of approximately 600,000 gpm. This flow, which mixes in the discharge canal with a creek named Oyster Creek, caused the discharge canal temperature to drop rapidly at the point the discharge canal leaves Jersey Central property. During the plant shutdown, the recorded temperature at this point in the canal was in the range of 32 to 40°F. (Spikes as high as 60°F were seen on the temperature chart; however, they appeared to be a malfunction of the recorder.)

Records show that liquid radioactive waste was discharged on both January 28 and 29; however, the records show that the releases were analyzed and were within established limits. Plant records show that no chemical releases from the plant for calendar years 1971 and 1972. However, 10,000 gallons of chromated water were transferred to a tank truck for disposal by Sunco, Inc. of Caldwell, New Jersey in calendar year 1971.

C. Action by Licensee:

A meeting was held with local officials from Ocean and Lacey Township on February 1, 1972 to discuss the cause of the "fish kill". According to minutes of the meeting, the local officials were satisfied with Jersey Central's explanation of what happened and that Jersey Central was doing all that was possible to protect the environment. Jersey Central has retained a consulting biologist, Dr. Charles Wurtz, to aid in their investigation. According to Mr. McCluskey, Dr. Wurtz discussed the problem with Mr. F. G. Farvelis, Chief Biologist, Environmental Protection Agency, during a tour of the area where the dead fish were found. Mr. Farvelis did not contact the plant directly. The "fish kill" was investigated for the State of New Jersey by Paul Hammer, Marine Biologist, and Bruce Young, Conservation Officer, of the Fish and Wildlife Service from the nearby Nacote Creek Fishery.

U.S. ATOMIC ENERGY COMMISSION  
 COMPLIANCE STATISTICAL DATA

A. DOCKET NUMBER 05000219	B. REPORT NUMBER 7201	C. PRIORITY CATEGORY C	D. INSPECTION/INVESTIGATION DATES		F. REGION CONDUCTING ACTIVITY 1
			FROM 02/07/72	TO	

LICENSEE/VENDOR Jersey Central Power & Light Company	FACILITY Oyster Creek	LICENSE NUMBER DPR-16
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G. APPROACH CONDUCTED

INSPECTION   
  INQUIRY   
  INVESTIGATION   
  VENDOR INSPECTION   
  MANAGEMENT VISIT   
  INQUIRY - NON LICENSEE

H. INSPECTION/INVESTIGATION RESULTS

1. 391   
  2. REGIONAL OFFICE LETTER   
  3. REFERRED TO HQS FOR ACTION

I. INSPECTION/INVESTIGATION FINDINGS

1. CLEAR   
  2. SAFETY ITEM   
  3. NONCOMPLIANCE   
  4. NONCONFORMANCE

J. FIELD ACTION AS A RESULT OF INQUIRY

1. CONDUCT INVESTIGATION   
  2. REVIEW NEXT INSPECTION   
  3. REFER TO OTHER REGION   
  4. REFER TO NON-REG. AUTH.   
  5. REFER TO OTHER REG. OFFICE   
  6. HQS FOR ACTION   
  7. NO FURTHER ACTION

L. REASON INSP. FINDINGS REFERRED TO HEADQUARTERS FOR ACTION	M. SUBJECT OF INQUIRY OR INVESTIGATION	N. HEADQUARTERS ACTION ON INSPECTION AND INVESTIGATION
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<input type="checkbox"/> 01. IMMEDIATE THREAT TO HEALTH AND SAFETY COMPLEX ITEM INVOLVING: <input type="checkbox"/> 02. NONCOMPLIANCE/NONCONFORMANCE <input type="checkbox"/> 03. LICENSING PROBLEM <input type="checkbox"/> 04. POLICY MATTER <input type="checkbox"/> 05. INTERPRETATION <input type="checkbox"/> 06. SAFETY ITEM <input type="checkbox"/> 07. MANAGEMENT DEFICIENCY <input type="checkbox"/> 08. INADEQ. REPLY TO LETTER <input type="checkbox"/> 09. NO REPLY TO LETTER <input type="checkbox"/> 10. NO CORRECTIVE ACTION PLANNED <input type="checkbox"/> 11. INADEQUATE CORRECTIVE ACTION PLANNED <input type="checkbox"/> 12. HQS LETTER REQUIRED <input type="checkbox"/> 13. HQS REVIEW REQUIRED <input type="checkbox"/> 14. UNREVIEWED SAFETY MATTER <input type="checkbox"/> 15. DESIGN CHANGE <input type="checkbox"/> 16. OTHER <input type="checkbox"/> 17. <input type="checkbox"/> 18. <input type="checkbox"/> 19.	<input type="checkbox"/> 01. TYPE A INT. OVEREXPOSURE <input type="checkbox"/> 02. TYPE A EXT. OVEREXPOSURE <input type="checkbox"/> 03. TYPE A RELEASE <input type="checkbox"/> 04. TYPE A LOSS OF FACILITY <input type="checkbox"/> 05. TYPE A PROPERTY DAMAGE <input type="checkbox"/> 06. TYPE B INT. OVEREXPOSURE <input type="checkbox"/> 07. TYPE B EXT. OVEREXPOSURE <input type="checkbox"/> 08. TYPE B RELEASE <input type="checkbox"/> 09. TYPE B LOSS OF FACILITY <input type="checkbox"/> 10. TYPE B PROPERTY DAMAGE 10 CFR 20.405 <input type="checkbox"/> 11. INTERNAL OVEREXPOSURE <input type="checkbox"/> 12. EXTERNAL OVEREXPOSURE <input type="checkbox"/> 13. EXCESSIVE RADIATION LEVELS <input type="checkbox"/> 14. EXCESSIVE CONCENTRATION LEVELS <input type="checkbox"/> 15. CRITICALITY <input type="checkbox"/> 16. LOSS OR THEFT <input type="checkbox"/> 17. CONTAMINATION <input type="checkbox"/> 18. UNSAFE OPERATION <input type="checkbox"/> 19. FIRE, EXPLOSION <input type="checkbox"/> 20. HUMAN (OPERATOR) ERROR <input type="checkbox"/> 21. COMPLAINT <input type="checkbox"/> 22. PUBLIC INTEREST <input type="checkbox"/> 23. LEAKING SOURCE <input type="checkbox"/> 24. TRANSPORTATION <input type="checkbox"/> 25. EXPIRED LICENSE <input type="checkbox"/> 26. EXPOSURE REPORTED AND FOUND INVALID <input type="checkbox"/> 27. CONSTRUCTION/EQUIP. DEFICIENCY <input type="checkbox"/> 28. EQUIPMENT FAILURE <input type="checkbox"/> 29. EXCEED LIC/TECH SPEC REQ'S <input type="checkbox"/> 30. DEPARTURE FROM PSAR/T'S <input type="checkbox"/> 31. OTHER	<input type="checkbox"/> 01. NO ACTION REQUIRED <input type="checkbox"/> 02. LETTER-CLEAR <input type="checkbox"/> 03. LETTER-NONCOMPLIANCE <input type="checkbox"/> 04. LETTER-SAFETY ITEM <input type="checkbox"/> 05. PART 2 NOTICE <input type="checkbox"/> 06. PART 2 NOTICE AS RESULT OF FOLLOWUP TO REGIONAL OFFICE LETTER <input type="checkbox"/> 07. ORDER <input type="checkbox"/> 08. REFER TO DPL FOR RESOLUTION <input type="checkbox"/> 09. REFER TO DRL FOR INFORMATION <input type="checkbox"/> 10. REFER TO DML FOR RESOLUTION <input type="checkbox"/> 11. REFER TO DML FOR INFORMATION <input type="checkbox"/> 12. REFER TO REGION TO CLOSE OUT <input type="checkbox"/> 13. OTHER
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O. REGIONAL OFFICE ACTION DATES		T. DATE LETTER, NOTICE, ORDER ISSUED
REPORT SENT TO HEADQUARTERS 02-17-72		
P. 391 LETTER ISSUED 02-17-72		U. DATE LICENSEE REPLY RECEIVED
Q. <input checked="" type="checkbox"/> REPLY NOT REQUIRED	R. LICENSEE REPLY RECEIVED	
S. <input type="checkbox"/> REPLY INADEQUATE	V. <input type="checkbox"/> REPLY NOT REQUIRED	

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