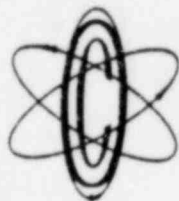


OYSTER CREEK



NUCLEAR GENERATING STATION

**JCP&L GPU**

Jersey Central Power & Light  
Company is a Member of the  
General Public Utilities System

(609) 693-6000 P.O. BOX 388 • FORKED RIVER • NEW JERSEY • 08731

May 21, 1981

Mr. Boyce H. Grier, Director  
Office of Inspection and Enforcement  
Region I  
United States Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, Pennsylvania 19406

Dear Mr. Grier:

SUBJECT: Oyster Creek Nuclear Generating Station  
Docket No. 50-219  
Licensee Event Report  
Reportable Occurrence No. 50-219/81-16/3L



This letter forwards three copies of a Licensee Event Report to report Reportable Occurrence No. 50-219/81-16/3L in compliance with paragraph 6.9.2.b.4 of the Technical Specifications.

Very truly yours,

Ivan R. Finfrock, Jr.  
Vice President - JCP&L  
Director - Oyster Creek

IRF:dh  
Enclosures

cc: Director (40 copies)  
Office of Inspection and Enforcement  
United States Nuclear Regulatory Commission  
Washington, D.C. 20555

Director (3)  
Office of Management Information  
and Program Control  
United States Nuclear Regulatory Commission  
Washington, D. C. 20555

NRC Resident Inspector (1)  
Oyster Creek Nuclear Generating Station  
Forked River, N. J.

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OYSTER CREEK NUCLEAR GENERATING STATION  
Forked River, New Jersey 08731

Licensee Event Report  
Reportable Occurrence No. 50-219/81-16/3L

Report Date

May 21, 1981

Occurrence Date

April 21, 1981

Identification of Occurrence

An unmonitored release of radioactive water occurred due to leakage from a valve inside the Condensate Transfer Pump Building. The water seeped through the ground in the building and under the walls which constitutes the foundation of the building and leaked to areas north and south of the building.

This event is considered to be a reportable occurrence as defined in the Technical Specifications, paragraph 6.9.2.b.4.

Conditions Prior to Occurrence

The plant was in the cold shutdown condition.

Description of Occurrence

At approximately 0054 hours, leakage was discovered from valve V-2-88, a Condensate System valve located in the Condensate Transfer Pump Building. Leakage from the building was also found, and by performing the applicable water balance, the total leakage from the Condensate System has been estimated at approximately 10,000 gallons.

Apparent Cause of Occurrence

The cause of the occurrence was attributed to failure of the valve packing. Apparently, vibration of the valve stem caused the packing material to loosen and allow leakage. The severity of the leakage increased due to the pressure of the fluid forcing packing material out past the gland. An inspection of the valve revealed no other visible damage - the gland was intact and in position, the valve body was not damaged and the studs were also intact.

### Analysis of Occurrence

By performing a water balance utilizing values from applicable Control Room and Operating Logs, a total of approximately 10,000 gallons could not be accounted for, and, therefore, must be considered as leakage. It should be noted that this figure is subject to the accuracy of the various tank and hotwell level indications involved. It has been estimated that the leakage through the valve occurred over a period of about 8 hours (5:00 P.M. April 20 to 1:00 A.M. April 21). From this, leakage through the valve was estimated at about 21 gpm, which appears to be a realistic number when the Condensate System operating pressure of 350 psig is taken into account. Based on the 10,000 gallon figure, a total activity of 1674 microcuries was released.

The valve which failed, V-2-88, is designed to be used as a bypass for V-2-17, the flow control valve. However, valve V-2-17 was tagged out of service at the time, due to problems with the valve internals. With valve V-2-17 out of service, valve V-2-88 was being used to control the flow. V-2-88 is a globe valve with a swivel disc. This design allows it to be used to control flow. However, it was being operated with the disc very close to the seat (the valve was only approximately one-eighth open), which is the most probable cause of the stem vibrations.

Several soil and water samples were taken over a period of three days to determine the effect of the leakage and what future actions would be necessary. On April 21, 1981, samples of Condensate System water and water which had leaked through the building were tested and showed the majority of the activity was due to  $\text{La}^{140}$  and  $\text{Ce}^{141}$ . The net activity for each nuclide was  $1.59 \times 10^{-5} \mu\text{Ci/ml}$  for  $\text{La}^{140}$  and  $2.69 \times 10^{-5} \mu\text{Ci/ml}$  for  $\text{Ce}^{141}$ . Several soil samples taken from the north and south sides of the building were also tested and showed the majority of the activity was due to  $\text{Co}^{60}$  and  $\text{Cs}^{137}$ , and the highest concentrations observed for each nuclide were  $2.65 \times 10^{-5} \mu\text{Ci/ml}$  for  $\text{Co}^{60}$  and  $1.04 \times 10^{-5} \mu\text{Ci/ml}$  for  $\text{Cs}^{137}$ . The fact that neither  $\text{Co}^{60}$  or  $\text{Cs}^{137}$  were detected in samples of Condensate System water would indicate that this activity was there prior to the leakage. Soil samples taken on April 22, 1981 and April 23, 1981 showed the highest activity areas to be very close to the building and only at the surface. Samples taken at a depth of 3 feet with a hand auger and ones taken at surface locations further away from the building showed considerably lower levels of activity. The low levels of the 3 foot deep samples (only  $\text{Ce}^{141}$  was detected, with a concentration of  $5.99 \times 10^{-6} \mu\text{Ci/ml}$ ) are a good indication that the activity did not penetrate deep enough into the soil to get into any aquifer, which is at least 20 feet below the surface.

### Corrective Action

Immediately after discovering the leaking valve, the "A" Condensate Pump was shut down and the Condensate Storage Tank was isolated. The area in front of the Chlorination Building was diked to trap any water collecting by the roadside, and this trapped water was pumped into 55 gallon drums. It is important to note that none of this water was allowed to enter a roadside storm drain, which leads to the discharge canal. The area around the Condensate Transfer Pump Building was roped off and plastic covering was laid down on the ground for added protection.

Valve V-2-88 was repacked on April 21, 1981, and a replacement valve was procured. This new valve was installed during the current spring outage, and the repair work for the flow control valve V-2-17 was also completed at the same time. On April 24, the Radiological Controls Department removed the barriers and the area was cleared as a contamination area. Plant Engineering has been requested by the PORC to seal the floor in the Condensate transfer building to minimize the probability of future leakage from the building to the environs, and to install a water detection alarm in the building with an alarm in the Control Room.

Failure Data

Manufacturer - Ohio Injector Co.  
Model - 3043 Butl - Welded  
Series Pressure - 300 lb.