



**GPU Nuclear**  
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Writer's Direct Dial Number:

November 23, 1982

Mr. Ronald C. Haynes, Administrator  
Region I  
U.S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, PA 19406

Dear Mr. Haynes:

Subject: Oyster Creek Nuclear Generating Station  
Docket No. 50-219  
Licensee Event Report  
Reportable Occurrence No. 50-219/82-51/03L

This letter forwards three copies of a Licensee Event Report (LER) to report Reportable Occurrence No. 50-219/82-51/03L in compliance with paragraph 6.9.2.b.4 of the Technical Specifications. We recognize that the time limitation specified in Technical Specification paragraph 6.9.2.b has been exceeded.

The delay in submittal of this LER is attributed to the failure to prepare a deviation report, which is the administrative mechanism which initiates management review for corrective action and the determination of reportability, at the time of discovery of this event. A deviation report (82-223) was subsequently prepared on October 18, 1982. It should be noted that although the deviation report was filed after the occurrence date, investigation and corrective action were initiated immediately following discovery.

Very truly yours,

Peter B. Fiedler  
Vice President and Director  
Oyster Creek

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

Director (3)  
Office of Management Information and  
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U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

NRC Resident Inspector  
Oyster Creek Nuclear Generating Station  
Forked River, NJ 08731

OYSTER CREEK NUCLEAR GENERATING STATION  
Forked River, New Jersey 08731

Licensee Event Report  
Reportable Occurrence No. 50-219/82-51/03L

Report Date

November 23, 1982

Occurrence Date

September 30, 1982

Identification of Occurrence

An abnormal degradation of the Waste Surge Tank located outside on the northwest side of the Old Radwaste Building caused an unmonitored release of radioactive liquid to the soil in the vicinity of the tank via tank, pump, and/or attached pipe leakage.

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

Not applicable.

Description of Occurrence

On the evening of September 21, 1982, a Radiological Controls Technician had performed a survey in the vicinity of the waste surge tank. When he completed his tour, he found that his shoes were contaminated. Efforts were immediately initiated to remove the contaminated soil. During the decontamination effort, the pattern of the contaminated soil and the depth vs. the activity level indicated the cause of contamination was the waste surge tank.

An inspection of the waste surge tank on September 30, 1982, confirmed degradation of the tank.

Many soil samples were taken in the area of the waste surge tank. The following is a summary of the highest activities obtained from each set of samples:

TABLE I

	Co 60	Cs 134	Cs 137	Mn 54	Zn 65
10 CFR 30.70 Limit	5E-4	9E-5	None	1E-3	1E-3
9/21/82 and 9/22/82	3.6E-2	3.9E-3	2.7E-2	1.03E-3	1.07E-3
9/28/82 through 9/30/82	8E-5	4.6E-6	1.3E-4	4.8E-7	
10/7/82	2E-4	2.4E-5	3.4E-4	2.8E-6	
10/13/82	1.6E-4	1.4E-5	1.9E-4	1.5E-6	
10/27/82	4.7E-5	1.8E-6	6.7E-5	None	

All values in microcuries per gram

- 9/21/82 and 9/22/82 These samples were taken from the surface down to a depth of one foot and were analyzed in-house.
- 9/28/82 through 9/30/82 The environmental controls group took nine core borings just outside the fenced area surrounding the tank. Three of these were angled toward the tank. 4-5 samples were taken at different depths down to ten feet deep from each core hole. These samples were analyzed by Radiation Management Corporation (RMC) under contract to GPU Nuclear.
- 10/7/82 The environmental group used a post hole digger to take samples from a depth of 3 feet. These samples were in the area of the samples taken on 9/21 and 9/22. Samples were analyzed by RMC.
- 10/13/82 Samples were taken in the same manner as those taken on 10/7/82 down to a depth of 6 to 7 feet below original grade. Samples were analyzed by RMC.
- 10/27/82 Samples were taken in the same manner as 10/7 and 10/13 down to a depth of 7 to 8 feet below original grade. These were also analyzed by RMC.

The higher activity samples taken on 9/21 and 9/22 were from the vicinity of the waste surge tank drain nozzle and waste surge tank pump which is mounted on a diked pad. Therefore, there was only a small volume of dirt with the higher activity. Most of the samples taken were below the 10 CFR 30 limits for Co 60. The total activity contained in the excavated soil has been conservatively calculated to be 0.66 curie.

The environmental controls group checked the test wells off site as well as the test well that was recently drilled on site near the affected area. None of the test wells showed any activity. The well drilled on site showed the water table to be at least 29 feet below grade.

#### Apparent Cause of Occurrence

The apparent cause of waste surge tank degradation was severe pitting of the bottom ten feet of sidewall and bottom of the tank. In addition, a cracked weld was found on the tank drain nozzle. Although it has not been determined whether any of the pits went completely through the bottom of the tank, the contamination is believed to have been caused by waste surge tank and pump leakage and/or leakage from the attached drain piping.

The weld crack in the drain nozzle is believed to be due to low cycle fatigue caused by buckling of the tank floor which in some areas is as high as three inches off the foundation.

The waste surge tank, which is made of aluminum, was designed for condensate quality water between pH 5 and 7.5. In recent years, the tank has had very little service and only with condensate quality water. However, during past service for old radwaste, the tank was exposed to less pure water coming from such systems as the Floor Drain System, the Waste Collection System, and the Waste Neutralizing Tanks.

#### Analysis of Occurrence

Based on the depth of the water table, samples taken from the test wells and soil, the radioactive liquid that leaked to the soil was totally contained within the radiologically controlled area of the plant and did not in any way affect the ground water or the health and safety of the general public.

#### Corrective Action

Immediate corrective action was to remove the tank from service. The tank interior was hydrolazed to remove all sludge and was then pumped dry to prevent further leakage of contaminated liquid. Various portions of the ground were covered and samples were taken. When the results of the samples taken showed higher than 10 CFR 30.70 limits, excavation was initiated in order to ensure activity at ground level was left below 10 CFR 30.70 limits.

The waste surge tank has been condemned. An evaluation is being performed to determine whether the tank will be repaired, replaced, or removed entirely.

A study is being initiated to review all external piping, flanges, valves and tanks which contain contaminated fluids. The degree of protection provided against leakage to the soil will be evaluated, and appropriate corrective actions pursued, if required.