

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Oyster Creek, Unit 1 DOCKET NUMBER (2) 05000219 PAGE (3) 1 OF 4

TITLE (4)

Diesel Generator Fuel Oil Tank Level Below Technical Specification Limit

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)														
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)												
0	3	0	3	8	4	8	4	0	0	1	0	0	0	4	0	2	8	4	0	5	0	0	0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)

OPERATING MODE (9)	20.402(b)	20.406(a)(1)(i)	20.406(a)(1)(ii)	20.406(a)(1)(iii)	20.406(a)(1)(iv)	20.406(a)(1)(v)	20.406(e)	50.38(e)(1)	50.38(e)(2)	50.73(a)(2)(i)	50.73(a)(2)(ii)	50.73(a)(2)(iii)	50.73(a)(2)(iv)	50.73(a)(2)(v)	50.73(a)(2)(vi)	50.73(a)(2)(vii)	50.73(a)(2)(viii)(A)	50.73(a)(2)(viii)(B)	50.73(a)(2)(ix)	73.71(b)	73.71(e)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
N																						
POWER LEVEL (10)	0	0	0																			

LICENSEE CONTACT FOR THIS LER (12)

NAME Mike Fitzgerald TELEPHONE NUMBER 6109 9171-48196

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO EXPECTED SUBMISSION DATE (15)

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On Friday, March 2, 1984, diesel generator #2 (DG-2) was started and allowed to run for approximately 4 hours for post-maintenance testing. The DG Fuel Oil Tank level after testing was above the Technical Specification limit of 14,500 gallons. Early on Saturday, March 3, 1984, another load test was performed on DG-2, for approximately 1 hour. The oil tank level by the level gauge was below the Technical Specification limit, however, by visual check inside the tank, the level appeared to be above the Technical Specification limit. On the next shift, the level was checked again and found to be below the Technical Specification limit. Oil was transferred into the tank to bring the level above the limit of 14,500 gallons.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1) Oyster Creek, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 1 9 8 4 - 0 0 1 - 0 0 0 2 OF 0 4	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

TEXT (If more space is required, use additional NRC Form 365A's) (17)

Date of Occurrence

The event occurred on March 3, 1984.

Identification of Occurrence

The level in the Diesel Generator fuel oil tank was found to be less than the Technical Specification limit of 14,500 gallons, as outlined in section 3.7.C.4.

This event is considered to be a reportable event as defined in 10 CFR 50.73(a)(2)(i)(B).

Conditions Prior to Occurrence

The reactor was defueled and the mode switch was in REFUEL.

Description of Occurrence

On March 2, 1984, a diesel generator load test was done on diesel generator #2 (DG-2) after maintenance. After the test, the diesel generator oil tank level was verified, using the level gauge, to be greater than the Technical Specification limit of 14,500 gallons. On March 3, 1984, DG-2 was again load tested for approximately 1 hour. The level was checked prior to the test, and the gauge indicated a level lower than the Technical Specification limit. However, the oil level was visually verified to be at a point in the tank which is above the 14,500 gallon limit. After the test, the level was again checked visually and was found to be above the Technical Specification limit. The level gauge still indicated the same level as it did before the test, a value below the Tech. Spec. limit. Due to past problems with overflowing the tank, the Operations personnel decided not to transfer oil at that time.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1) Oyster Creek, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 1 9					LER NUMBER (6)			PAGE (3)		
						YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
						8 4	- 0 0 1	- 0 0	0 3	OF	0 4

TEXT (If more space is required, use additional NRC Form 365A's) (17)

During the following shift, DG-2 was run again for 10 minutes in order to obtain water and oil samples. About an hour later, the oil tank level was found to be below the limit of 14,500 gallons on the level gauge by an operator making his tour. A total of 500 gallons of oil was transferred into the diesel generator oil tank, which brought the level up to approximately 14,850 gallons.

Apparent Cause of Occurrence

The apparent cause of the occurrence is attributed to operator error by not sufficiently following through on the low level indication. A fuel oil transfer should have been made either during or immediately after the DG load test on March 3, 1984. There are several contributing factors to this event and its cause. The design capacity of the tank is too close to the Tech. Spec. limit for minimum oil capacity, and it does not allow sufficient operating flexibility. By not having this flexibility, the possibility of overflowing the tank or going below the Tech. Spec. limit is increased significantly. In addition, Operations personnel have little confidence in the level indicator due to past problems with overflowing the tank.

Analysis of Occurrence and Safety Assessment

There is obviously some disparity between the level as obtained by visual check into the tank manway and the level obtained using the gauge. The diesel generator fuel oil tank is a cylindrical tank with a conical roof. Calculations were done on February 13, 1984 which showed that if oil level was maintained above the point where the cone roof begins, the Technical Specification limit would not be violated. These calculations were used during the period when the level indicator was being replaced. The new level indicator was placed in service on February 25, 1984. The level indicator has an accuracy of ± 0.066 percent, yet there is another factor which can affect the accuracy of the reading. The indicator is set using a specific gravity of 0.84; however, a 1 percent change in specific gravity causes a 1 percent change in level indication. The values for specific gravity usually range for 0.82 to 0.86. The sample taken on March 3, 1984 has yet to be analyzed for specific gravity. If the specific gravity is different than 0.84, it would affect the accuracy of the level indicator.

This disparity brings about the question as to whether or not there actually was a low level in the tank. This can be answered by looking at some facts about the tank and the transfer of oil after the discovery of the Tech. Spec. violation. The tank is capable of holding a total of 14,986 gallons of oil. After the discovery of the low level, 501 gallons of oil were transferred to the tank, which indicates that there had to be less than 14,500 gallons prior to the transfer.

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Aside from the possible inaccuracy of the level indicator due to specific gravity changes, there are other problems associated with the diesel fuel oil tank. A major problem is the design capacity of the tank. The Tech Specs. require a minimum of 14,500 gallons at all times, yet the tank is only capable of holding approximately 486 gallons above this limit. This capacity is actually lessened by the fact that the tank will begin to overflow through a vent prior to the level actually reaching the top of the roof. In fact, this tank has been overflowed in the past due to concerns about approaching the Tech. Spec. limit. This was one of the major factors contributing to the original decision not to transfer oil.

The safety significance of this event is minimal. The lowest level the tank reached at any time was recorded as 14,350 gallons. The Tech. Spec. limit of 14,500 gallons is based on oil consumption by the Diesel Generators during various LOCA and loss of power scenarios. The worst case oil consumption is during a loss of offsite power plus LOCA with both diesels starting and loading, and shedding the following loads from one diesel after 8 hours: 1) one Core Spray Pump; 2) one Core Spray Booster Pump; 3) one Control Rod Drive Pump; 4) one Containment Spray Pump; 5) one Emergency Service Water Pump. This oil consumption is 12,840 gallons for a three day supply. Presently, Core Spray, Containment Spray, and Emergency Service Water Systems are all not required due to being shutdown and in the Refuel mode. If the plant had been at full power, there still would have been more than enough oil to satisfy the worst case three day oil supply.

Corrective Action

The immediate corrective action was to transfer oil to the tank to bring the level above the Tech. Spec. limit. Future solutions to be evaluated include the following:

- 1) Utilize a level instrument which is not sensitive to changes in specific gravity, or one which compensates for changes in specific gravity.
- 2) Reduce the Technical Specifications limit to a value which does not compromise the design basis capacity, yet which allows more operational flexibility than there is at present.
- 3) Replace the existing tank with a larger tank.
- 4) Instruct operators to transfer oil as required by the indication on the level gauge.



GPU Nuclear Corporation

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609 971-4000
Writer's Direct Dial Number:

April 2, 1984

Dr. Thomas E. Murley, Administrator
Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Dear Dr. Murley:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
Licensee Event Report
Reportable Occurrence No. 50-219/84-001

This letter forwards three copies of a Licensee Event Report (LER) to report Reportable Occurrence No. 50-219/84-001 in compliance with 10CFR50.73.

Very truly yours,

Peter B. Fiedler
Vice President and Director
Oyster Creek

PBF:dam
Enclosures

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

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Oyster Creek Nuclear Generating Station
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11