OYSTER CREEK **NUCLEAR GENERATING STATION**

JCP&L / GPU

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April 15, 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. 50-219/81-14/01T-0

This letter forwards three copies of a Licensee Event Report to report Reportable Occurrence No. 50-219/81-14/01T-0 in compliance with paragraphs 6.9.2.a(2) and 6.9.2.b(2) of the Technical Specifications.

Very truly yours,

Ivan R. Finfrock, Jr.

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.

OYSTER CREEK NUCLEAR GENERATING STATION
Forked River, New Jersey 08731

Licensee Event Report
Reportable Occurrence No. 50-219/81-14/01T-0

Report Date

April 15, 1981

Occurrence Date

April 1, 1981

Identification of Occurrence

The primary containment atmosphere was not reduced to less than 5.0% oxygen concentration within 24 hours after the reactor mode selector switch was placed in the RUN mode as required by Technical Specifications paragraph 3.5.A.6.

This event is considered to be a reportable occurrence as defined in the Technical Specifications, paragraph 6.9.2.a(2).

Additionally, due to the delay in inerting the containment, the Drywell-Suppression Chamber differential pressure limit was not established within 24 hours after the mode switch was placed in the RUN mode as required by Technical Specifications paragraph 3.5.A.9.a. This is considered a limiting condition for operation reportable in accordance with Technical Specifications, paragraph 6.9.2.b(2).

Conditions Prior to Occurrence

Load Changes during Routine Power Operations

Plant parameters at the time of occurrence were:

Power:	Reactor	1484 MWt
	Electrical	473 MWe
Flow:	Recirculation	12.2×10^4 gpm
	Feedwater	5.4×10^6 lb/hr

Description of Occurrence

On Wednesday, April 1, 1981, at approximately 1900 hours (24 hours after placing the reactor mode switch in RUN) the Drywell and Torus oxygen concentrations were greater than 5.0%. (5.1% and 5.4% respectively).

Containment inerting was in progress at the time and had been since about 0710 hours that day. While inerting the Torus it became necessary to reduce the Nitrogen flow significantly since it was observed that the Torus was pressurizing. Inerting was shifted over to the Drywell at about 1500 hours when the Torus Oxygen concentration indicated less than 5%. A calibration of the Torus Oxygen analyzer was performed which indicated 4% oxygen in the Torus.

Drywell inerting was not affected by venting problems, however, the purge rate was limited by Nitrogen temperature at the purge inlet due to a faulty block of heaters in the Nitrogen vaporizer. During this time it was noted that the Torus oxygen concentration was rising slowly and had exceeded 5%. At 1900 hours with Drywell Oxygen concentration indicating 5.1% and Torus Oxygen concentration indicating 5.4% a reactor shutdown was commenced while inerting continued. At 2054 hours both Drywell and Torus oxygen concentrations were below 5% and the Drywell to Torus differential pressure had been established within the acceptable range at which time the shutdown was terminated.

Apparent Cause of Occurrence

The major contributing factor in this event was the inability to vent the Torus fast enough during inerting. The purge rates were significantly restricted, in order to avoid pressurizing the Torus, which extended the inerting process. Since the Drywell was vented without experiencing similar difficulties it is believed that the Torus vent valves V-28-17 and V-28-18 are suspected as being the source of the problem. These valves were among those modified, during the 1980 refueling outage, to restrict their opening to less than 30 degrees.

Another contributing factor was that the Nitrogen vaporizer was operating in a reduced status; possibly with up to half of the heaters inoperable or having faulty elements. This, independent of venting problems, necessitated restricting the purge rate to maintain acceptable Nitrogen temperatures at the purge inlet.

The delay in commencing inerting after placing the mode switch in RUN was caused by several events. A drill required as part of implementing the new Emergency Plan was held after the plant reached a stable condition. The drill preparation, conduct, and recovery delayed other plant operations until after midnight on March 31. A test necessary to determine whether a primary relief valve was leaking slightly had to be performed three times before the valve seated satisfactorily. After the relief valve test, a surveillance of primary containment vacuum breakers was required before power increase could continue. The test was completed by 0615 and preparations for inerting were begun.

Analysis of Occurrence

The containment atmosphere control system is designed to maintain an inert atmosphere within the primary containment to preclude energy releases from a possible hydrogen-oxygen reaction following a postu-

lated loss of coolant accident which could jeopardize the integrity of the containment. Conservative estimates of the hydrogen produced following the postulated loss of coolant accident with the operation of either core spray system show that the hydrogen produced from the metal-water reaction would result in a hydrogen concentration of 0.4% in the primary containment. This concentration is significantly below the concentration at which hydrogen can be ignited in air. However, inerting of the primary containment was included in the proposed design and operation to preclude the possibility of an energy release within the primary containment from a hydrogen-oxygen reaction under more severe conditions than could be foreseen.

In addition, considering that the Drywell and Torus Oxygen concentrations were only slightly above 5% for a relatively short time the safety significance is considered minimal.

Corrective Actions

Immediate corrective actions taken were to commence a reactor shutdown and continue inerting the containment. The shutdown was terminated when the containment oxygen concentration was reduced to less than 5% and the required Drywell to Torus differential pressure had been established.

Future corrective actions will include checking the opening stroke of the Torus vent valves V-28-17 and V-28-18 during the next scheduled outage and repairing the vaporizer heater block prior to the next startup.