

**GPU Nuclear**

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May 3, 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. 50-219/82-21/01T

This letter forwards three copies of a Licensee Event Report to report Reportable Occurrence No. 50-219/82-21/01T in compliance with paragraphs 6.9.2.a(2) and 6.9.2.b(2) of the Technical Specifications.

Very truly yours,

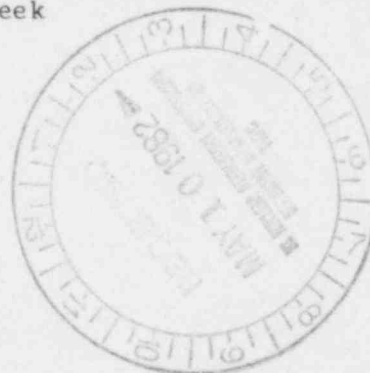
Peter B. Fiedler
Vice President & Director
Oyster Creek

PBF:lse
Enclosures

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
Program Control
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

NRC Resident Inspector (1)
Oyster Creek Nuclear Generating Station
Forked River, NJ 08731



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OYSTER CREEK NUCLEAR GENERATING STATION
Forked River, New Jersey 08731

Licensee Event Report
Reportable Occurrence No. 50-219/82-21/01T

Report Date

May 3, 1982

Occurrence Date

April 16, 1982

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 event is reportable in accordance with Technical Specifications, paragraph 6.9.2.b(2).

Conditions Prior to Occurrence

Power:	Reactor	1390 MWt
	Electrical	319 MWe

Description of Occurrence

On Friday, April 16, 1982 at 1409 hours (24 hours after placing the reactor mode selector switch into the RUN mode), the Drywell oxygen concentration was greater than 5% and the Drywell/Torus pressure differential was less than 1 psid.

Containment inerting was in progress at the time and had been since 1650 hours the day before. At 1900 hours on 4/15/82, the Torus was inerted to approximately 4.5% oxygen, therefore, inerting of the Drywell was commenced. At approximately 0300 hours on 4/16/82, an emergency nitrogen order was placed when it was realized that there was insufficient nitrogen to complete Drywell inerting. The inerting had been started with a level of 180 inches in the nitrogen supply tank which is above the procedure minimum for commencement of inerting of 170 inches. At 0436 hours, inerting of the Drywell was stopped because a level of 50 inches was reached in the nitrogen supply tank as a minimum level of 50 inches is required by procedure. At 0845 hours, the nitrogen inerting system was restarted which immediately blew the rupture disc in the nitrogen supply line to the Drywell. The rupture disc blew because of a miscommunication during the valve lineup. The rupture disc was replaced by 1045 hours and the inerting process was begun again at 1050 hours.

At approximately 1230 hours, the oxygen analyzer reading for the Drywell was less than 5%, therefore, pressurization of the drywell was commenced. Between 1200 hours and 1330 hours, the Drywell and Torus oxygen analyzers were recalibrated. The meters after calibration showed oxygen concentrations for the Drywell and Torus of 5.5% and 2.5%, respectively. As a result, inerting of the Drywell commenced again. At 1409 hours, the oxygen concentration was greater than 5% (5.5%) in the Drywell and the Drywell/Torus pressure differential was less than 1 psid (.54 psid). Thus, a reactor shutdown was commenced while the inerting continued. At 1521, the Drywell oxygen concentration was 4.8% and the Drywell/Torus pressure differential was 1.31 psid which were within the acceptable ranges; therefore, the shutdown process was terminated.

Apparent Cause of Occurrence

The major factors in this event were the loss of over six hours of inerting time due to insufficient nitrogen and a blown rupture disc. The insufficient supply of nitrogen was caused by the over inerting of the Torus to 2.5% oxygen. (The Torus was inerted to 4.5% at 1900 hours on 4/15/82, but when the analyzer was recalibrated on 4/16/82, it showed 2.5% oxygen concentration.) The over inerting occurred because of problems associated with the oxygen analyzer system.

Another contributing factor was the inability of the nitrogen vaporizer to make up for the time lost due to the low nitrogen supply and blown rupture disc.

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 postulated loss of coolant accident (LOCA) which could jeopardize the integrity of the containment. Conservative estimates of the hydrogen produced following the postulated LOCA 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.

Maintaining the Drywell to Torus differential pressure greater than 1 psid assures the integrity of the Torus when subject to post LOCA Torus hydrodynamic forces.

Considering that the Drywell oxygen concentration was only slightly above 5% and the Drywell/Torus differential pressure was less than 1 psid for a relatively short period after the twenty-four hour Technical Specification time limit had been reached, the safety significance is considered minimal.

Corrective Action

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 minimum of 1 psid Drywell/Torus differential pressure had been established.

An engineering request has been made to upgrade the oxygen analyzer systems.

In the future, the reactor will not be placed in the RUN mode until the containment is inerted to less than 5% oxygen, unless specifically authorized by the Plant Operations Director. This restriction will remain until:
(1) more reliable oxygen monitoring instruments are installed, (2) containment inerting and vent valve opening restrictions (30%) are removed, and (3) the capacity of the nitrogen evaporators is verified to be reliable and adequate.