

DESIGNATED ORIGINAL

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Region I  
U.S. Nuclear Regulatory Commission  
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GPU Nuclear  
Oyster Creek Nuclear Generating Station  
Docket No. 50-719  
Porked River, New Jersey 08731

Reportable Occurrence Report No. 50-719/82-21/01P  
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The following is a preliminary report being  
submitted in compliance with the Technical  
Specifications, paragraph 6.9.2.a.(3).

DATE:

April 16, 1982

Preliminary Approval:

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OTSTER CREEK NUCLEAR GENERATING STATION  
Farked River, New Jersey 08731

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

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 is considered a limiting condition for operation 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 switch in Run), the Drywell oxygen concentration was greater than 5%.

Containment inerting was in progress at the time and had been since 1650 hours the day before. At 1900 on 4/15/82, the Torus was inerted; therefore, inerting of the Drywell was commenced. At 0436 on 4/16/82, inerting of the Drywell was stopped because a level of 50" was reached in the nitrogen supply tanks. (Minimum of 50" level is required by procedure.) At 0845, the nitrogen system was restarted which immediately blew a rupture disc. The rupture disc was replaced by 1045 and the inerting process commenced again at 1050. At 1409 hours, the oxygen reading was greater than 5% (5.5%) and the Drywell/Torus pressure differential was 0.54 psi. Thus, a reactor shutdown was commenced while the inerting continued. At 1521, the Drywell oxygen concentration was 4.6% and the Drywell/Torus pressure differential was 1.31 psi which are within the acceptable range; therefore, the shutdown was terminated.

Apparent Cause of Occurrence

The major contributing factors in this event were the loss of over six hours inerting time due to insufficient nitrogen in the supply tank and a blown rupture disc. The cause of the blown rupture disc and the sequence of events leading up to the plant shutdown due to a limiting condition for operation still under investigation and will be included in the follow-up report.

Analysis of Occurrence

The containment atmosphere control system is designed to maintain an inert atmosphere within the primary containment to preclude energy releases from possible hydrogen-oxygen reaction following a postulated loss of coolant accident which could jeopardize the integrity of the containment. Conservatively 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, an inert gas of the primary containment was included in the proposed design and operation 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 Oxygen concentration was only slightly above 5% for a relatively short time 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 Drywell to Torus differential pressure had been established.

Future corrective actions, if any, will be determined after a full investigation of the event is completed.