

September 22, 2008

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE -- PNO-III-08-011

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the Region III staff on this date.

<u>Facility</u>	<u>Licensee Emergency Classification</u>
DC Cook Nuclear Plant	<input checked="" type="checkbox"/> Notification of Unusual Event
Indiana Michigan Power Company	<input type="checkbox"/> Alert
American Electric Power (AEP)	<input type="checkbox"/> Site Area Emergency
Bridgeman, MI	<input type="checkbox"/> General Emergency
Docket: 50-315	<input type="checkbox"/> Not Applicable
License: DPR-58	

SUBJECT: DC COOK UNIT 1 UNIT MANUAL TRIP DUE TO MAIN TURBINE GENERATOR FIRE AND SIGNIFICANT FIRE SUPPRESSION SYSTEM DEGRADATION

DESCRIPTION:

At 8:05 p.m. EDT on September 20, 2008, with the DC Cook Units 1 and 2 at full power, a malfunction in the Unit 1 main turbine generator (TG) led to high vibrations and loud rumbling that caused operators to manually trip the Unit 1 reactor and TG and to break main condenser vacuum. Breaking vacuum helped stop the TG but resulted in loss of the secondary power conversion system (e.g., main feed water system and condenser bypass valves). A TG hydrogen fire resulted when high TG vibration apparently caused TG hydrogen seals to fail.

Portions of the Unit 1 TG fire suppression system automatically actuated. Operators actuated manual portions of the system and called for both site and local fire departments which responded. It was determined that all reactor safety systems operated as designed (e.g. all control rods fully inserted and the auxiliary feed water system activated), and the steam generator atmospheric relief valves operated to remove decay heat.

At 8:18 p.m., the licensee declared a notification of unusual event (NOUE), the lowest of four emergency classifications, for a fire in the Protected Area lasting more than 15 minutes and a flammable gas release that affected plant operation. The fire was extinguished by 8:30 p.m. At 8:46 p.m., the NRC entered Monitoring Mode.

At 9:25 p.m., a fire system low pressure alarm signaled a problem with the system. Operators stopped the site's three fire pumps. The site fire protection header had ruptured and one of the site's two fire protection storage tanks had been pumped dry. By 11:09 p.m., operators had isolated the rupture and established alternate fire water supplies. By approximately 2:00 a.m. one of the three fire pumps (a motor-driven unit) was restored to operable status. A second fire pump (one of the two diesel-driven units) was restored to operable status mid-day Sunday.

The licensee inspected Unit 2 as though it had been subjected to a seismic event because the turbine building had experienced vibrations associated with the Unit 1 TG failure. No apparent damage was observed on Unit 2.

At 4:09 a.m, the licensee completed preliminary plant evaluations and exited the NOUE. At 4:17 a.m., the NRC exited monitoring mode. There were no personnel injuries.

Unit 1 has since been cooled down and depressurized. It entered Mode 5 on 3:27 a.m. Monday, September 22. Unit 2 continues to operate at full power.

The NRC sent a fire protection inspector to the site Sunday afternoon and intends to launch a Special Inspection Team today. The onsite inspectors continue to monitor licensee activities associated with full restoration of the site-wide fire protection system and investigation into the causes of both the TG failure and fire suppression system failure.

The State of Michigan has been notified. The information in this preliminary notification has been reviewed with licensee management.

This information is current as of 7:30 a.m. (CDT) on September 22, 2008.

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