

February 23, 2005

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE -- PNO-III-05-003

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.

Facility

Kewaunee Nuclear Power Plant  
Nuclear Management Company, LLC  
Kewaunee, WI  
Docket: 50-305

Licensee Emergency Classification

Notification of Unusual Event  
 Alert  
 Site Area Emergency  
 General Emergency  
 Not Applicable

SUBJECT: SHUTDOWN IN EXCESS OF 72 HOURS DUE TO AUXILIARY FEEDWATER SYSTEM DECLARED INOPERABLE DUE TO HIGH ENERGY LINE BREAK CONCERNS

DESCRIPTION:

The NRC completed an engineering evaluation inspection at the Kewaunee Nuclear Power Plant on Friday, February 18, 2005. During the inspection, a potential item of significance was noted in the Auxiliary Feedwater (AFW) system. Specifically, the inspectors were concerned that the discharge pressure trip switches for the three AFW pumps would not prevent the pumps from being damaged by air entrainment following an automatic system initiation with seismic or tornado damage to the suction line which connects the Condensate Storage Tank (CST) to the AFW pumps.

In order to address this concern, the licensee performed a thorough walkdown of the suction line piping for potential vulnerabilities. On February 19, 2005, the licensee identified a potential vulnerability at a stretch of the suction piping that is immediately adjacent to high pressure Main Feedwater system piping. In the unlikely event of a high pressure Main Feedwater line rupture at this location, the resulting pipe whip could result in the failure of the AFW suction line. As a result of this determination, the licensee declared all three AFW pumps inoperable and commenced a Technical Specification required shutdown and cooldown.

During the shutdown/cooldown procedure two noteworthy items occurred. With the reactor already in a shutdown status an automatic reactor trip signal was received from the Reactor Protection System (RPS) due to low water level in the 'B' Steam Generator. During the cooldown process, water level will normally slowly lower as temperature decreases. At this point, the operators took the necessary actions to restore steam generator water level. Later during the plant cooldown, the reactor coolant system (RCS) was aligned to the residual heat removal system (RHR) per Kewaunee Operating Procedures. The addition of the cooler RHR water lowered the temperature and pressure of the cooling water on the steam plant side of the steam generator. The lower pressure in the steam generator allowed service water to flow through the idle AFW pump, which had been aligned to service water in order to fulfill Technical Specification requirements. Approximately 1000 gallons of service water, which is water drawn

from Lake Michigan, entered the steam generators and will have to be flushed out of the system.

The licensee notified the NRC resident inspectors of the conditions requiring plant shutdown, and the residents responded to the site to observe plant shutdown/cooldown.

The state of Wisconsin has been notified. This information has been verified with the licensee and is current as of 10:00 am CST, 2/23/05.

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