

April 20, 2006

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE -- PNO-III-06-004B

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

Facility Name Byron Units 1 and 2
Licensee Exelon Generating, LLC
City, State Byron, IL
Docket: 50-454 and 50-455
License: NPF-37 and NPF-66

Licensee Emergency Classification

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

SUBJECT: RESUMPTION OF EFFLUENT DISCHARGES

DESCRIPTION:

Exelon notified the NRC Region III (Chicago) that it was planning to resume normal, radioactive effluent discharges at the Byron Nuclear Generating Station through the blowdown line to the Rock River beginning on April 20, 2006. Following the licensee's identification of past leakage from the system, the licensee implemented corrective actions that included inspection and maintenance of the vacuum breakers, groundwater monitoring, and sealing of the vacuum breaker vaults. The licensee has also implemented additional measures to prevent, detect, and mitigate any potential system leakage. The NRC has inspected the licensee's actions and confirmed that these actions provide adequate confidence that the system will operate appropriately. Exelon is planning to issue a press release prior to commencing the effluent discharge.

Background Information:

On February 10, 2006, Exelon informed the resident inspectors and Region III that elevated levels of tritium in water had been identified in several vacuum breaker vaults located along the Byron discharge piping. This piping is on plant property. The piping is approximately 2.5 miles long normally carrying non-radioactive circulating water to the Rock River. The discharge pipe is also used for planned liquid radioactive effluent releases with effluent mixing with the discharge water.

Exelon installed additional monitoring wells to fully characterize the extent of contamination and to inspect the pipeline for leaks.

The licensee had suspended releases of radioactive effluents in February 2006 and was storing liquid effluents in existing plant equipment at the Byron site.

On March 31, 2006, Exelon notified the NRC Region III (Chicago) that its monitoring program at the Byron Nuclear Generating Station identified slightly elevated concentrations of tritium in groundwater on company property close to the Byron circulating water blowdown piping. Based on earlier sample results taken from within the six vacuum breaker vaults, the licensee installed ground water monitoring wells near the six vacuum breaker vaults along the station's discharge pipe to allow further sampling for tritium. Wells beside four of the six vaults showed no detectable levels of tritium. Test wells beside the other two showed low levels of tritium. One showed a concentration of about 3800 picocuries per liter, the other about 450 picocuries per liter.

The State of Illinois has been informed of this updated information. The information in this preliminary notification has been reviewed with licensee management. This information is current as of 11:00 a.m. Central Time on April 20, 2006.

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