

PRELIMINARY NOTIFICATION- REGION III

March 31, 2006

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

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

Byron Generation Station Unit 1 and 2
Exelon Generation Co.
Byron, Illinois
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: TRITIUM LEAKAGE (Update)

DESCRIPTION:

On March 31, 2006, Exelon notified the NRC Region III (Chicago) that its monitoring program at the Byron Nuclear Generating Station has 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.

Exelon has indicated to the NRC that it plans to continue installing monitoring wells and testing to fully characterize the extent of contamination and will also inspect the pipeline for leaks.

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.

The licensee suspended releases of radioactive effluents in February 2006 and is currently storing liquid effluents in existing plant equipments at the Byron site.

The State of Illinois has been informed of this updated information. NRC Region III personnel have been following the licensee's activities and performing split sampling and / or independent sampling and analyses. Additional oversight activities will continue. The information in this preliminary notification has been reviewed with licensee management. This information is current as of 2:30 p.m. Central Time on March 31, 2006.

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