

April 7, 2006

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE -- PNO-III-06-011

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> |
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| Braidwood 1 and 2 | <input type="checkbox"/> Notification of Unusual Event |
| Exelon Generation Co. | <input type="checkbox"/> Alert |
| Braceville, Illinois | <input type="checkbox"/> Site Area Emergency |
| Docket: 50-456 and 50-457 | <input type="checkbox"/> General Emergency |
| License: NPF-72; NPF-77 | <input checked="" type="checkbox"/> Not Applicable |

SUBJECT: TRITIATED STEAM RELEASED TO THE ENVIRONMENT

DESCRIPTION:

At 1:25 p.m. CDT on April 6, 2006, the Unit 2 25B drain cooler relief valve in the feedwater system lifted and remained open, resulting in secondary plant steam being released to the environment through a vent in the turbine building wall.

In response to the event, operators reduced reactor power to 96 percent in preparation for isolating the drain cooler. At 5:47 p.m. the feedwater heater was isolated, stopping the steam flow to the atmosphere.

Approximately 114,000 gallons of feedwater was released as steam. Most of the steam condensed on plant property, and the water was collected and pumped back into the plant.

The secondary system (feedwater) was known to contain tritium as a result of past leakage to the secondary system from the liquid radioactive waste processing system. Because of the known presence of tritium, the licensee sampled various on-site locations for tritium contamination.

The sampling results indicated up to 46,000 picocuries per liter of tritium on plant property, with concentrations between 400-600 picocuries per liter in a ditch. About 500 gallons of water is believed to have entered this ditch. The licensee dammed the ditch and pumped most of the water back to the plant. The licensee is conducting additional on-site sampling and will determine whether off-site testing will be necessary. The licensee analyzed the samples for other radionuclides and none were detected.

Following the isolation of the drain cooler, the licensee replaced the relief valve, and returned the cooler to service with plans to return the unit to full power. Additionally, the licensee is investigating the cause of the relief valve failure.

NRC Region III (Chicago) will continue to monitor the licensee activities, including the potential for off-site migration and obtaining split samples from the licensee for independent analysis. Based on the information provided, there is no indication that NRC effluent release limits have been exceeded, and the release does not represent a health and safety hazard to plant personnel or the public.

The licensee has notified appropriate state and local officials and the local media. The information in this preliminary notification has been reviewed with licensee management. This information is current as of 9:00 a.m. CDT on April 7, 2006.

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