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August 20, 2001
BW010093

U.S. Nuclear Regulator Commission
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Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457

Subject: Environmental Non-Routine Event Report for Exelon Generation Company, LLC -
Braidwood Station

In accordance with the 30 day notification requirements of Facility Operating Licenses NPF-72 and NPF-77, Appendix B, Environmental Protection Plan, Sections 4.1, "Unusual or Important Environmental Events," and 5.4.2, "Nonroutine Reports," Braidwood Station is submitting this Environmental Non-Routine Event Report on a thermal fish kill that occurred on the Braidwood cooling lake.

Event Description

On July 22, 2001, a thermal fish kill was identified on the station cooling lake. The initial estimate reported that approximately 700 fish had been killed, but the fish species were not listed. The Illinois Department of Natural Resources (IDNR) was notified. Pursuant to 10 CFR 50.72 (b)(2)(xi), "Immediate notification requirements for operating nuclear reactors, non-emergency events," an ENS notification was made. On July 23, 2001, a representative from IDNR performed an onsite inspection and developed the plans for assessment of the fish kill.

Analysis and Evaluation

During the period of July 20-26, 2001, Units 1 and 2 were operating in Mode 1 at full power. Six circulating water pumps were running to provide a circulation in the cooling lake of approximately 1.4 million gallons per minute. Two circulating water makeup pumps were providing approximately 44,000 gallons per minute of makeup water to the cooling lake from the Kankakee River. Blowdown to the Kankakee River was shutdown for maintenance from July 23, 2001 through July 26, 2001. Normally, blowdown to the Kankakee River occurs at approximately 12,500 gallons per minute.

IL25

A review of average circulating water inlet temperatures for the period July 20-26, 2001 showed that four temperature peaks occurred:

- 97.8°F on July 21, 2001, between 1830 and 2000
- 98.4 °F on July 22, 2001, between 1550 and 1640
- 97.9 °F on July 23, 2001, between 1550 and 1700
- 97.7 °F on July 24, 2001, between 1745 and 1830

These temperatures are above the upper lethal temperatures for most of the fish species living in the lake, with the exception of temperature acclimated juvenile Bluegill. A survey was completed by the IDNR on July 24, 2001.

The cooling lake is classified by the State of Illinois as a treatment facility for the dissipation of waste heat. The station's National Pollutant Discharge Elimination System, (NPDES) Permit No. IL0048321 issued by the Illinois Environmental Protection Agency contains provisions reflecting this classification. In accordance with the permit, no state or federal water quality standards are applicable to the lake. Effluent standards are applied to the process streams discharging into the lake. Effluent, thermal, and chemical standards are applied to the lake blowdown effluents to the Kankakee River. None of these standards were violated during this period.

Probable Cause of Event

The thermal fish kill was attributed to high lake temperatures. Prolonged high air temperatures, high humidity and low wind speeds combined to preclude heat dissipation on the cooling lake, resulting in an increase in temperatures above the upper lethal temperatures for most fish species living in the cooling lake. At no time did the Braidwood Lake temperature exceed the Technical Specification Limit identified in Technical Specification 3.7.9, Ultimate Heat Sink.

Corrective Actions

The Lake Screen House travelling screens were operated to ensure they functioned to keep the fish remains out of the plant systems.

Actions to Prevent Recurrence

Prolonged high temperatures and humidity during the daytime in conjunction with little cooling at night and little precipitation resulted in sustained elevated water temperatures in the cooling lake. There are no controllable measures that can be taken to quickly reduce the temperature of the cooling lake in that reduction of the heat input by derating the units would have a negligible short-term effect on the temperature of the cooling lake.

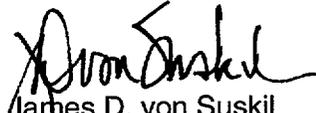
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Agencies Notified and Preliminary Responses

The IDNR was notified of the thermal fish kill. Their preliminary response was to perform a fish count to determine the extent of the kill and the species affected.

Should you have any questions concerning this letter, please contact Amy Ferko, Regulatory Assurance Manager, at (815) 417-2699.

Respectfully,



James D. von Suskil
Site Vice President

Braidwood Station

Attachment

cc: Regional Administrator - NRC Region III
NRC Senior Resident Inspector - Braidwood Station