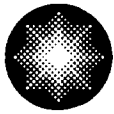


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Constellation Energy
Generation Group

September 7, 2006

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
Special Report: Technical Specification 4.1, Appendix B, Unusual Fish Kill

REFERENCE: (a) Calvert Cliffs Nuclear Power Plant, Environmental Protection Plan (Non-Radiological) Technical Specifications, Section 4.1

In accordance with Reference (a), Calvert Cliffs Nuclear Power Plant is submitting the following report as described in Attachment (1). This report documents the occurrence of a fish kill in the intake embayment.

The most probable cause of the death of the fish was low oxygen conditions in the bay.

Should you have questions regarding this matter, please contact Mr. Jay S. Gaines at (410) 495-4922.

Very truly yours,

JAS/CAN/bjd

Attachment: (1) Unusual Fish Kill Event at Calvert Cliffs Nuclear Power Plant

cc: P. D. Milano, NRC
S. J. Collins, NRC
Resident Inspector, NRC

R. I. McLean, DNR
T. Boone, MDE

IE23

ATTACHMENT (1)

**UNUSUAL FISH KILL EVENT AT
CALVERT CLIFFS NUCLEAR POWER PLANT**

ATTACHMENT (1)

UNUSUAL FISH KILL EVENT AT CALVERT CLIFFS NUCLEAR POWER PLANT

On August 15, 2006 Calvert Cliffs Nuclear Power Plant personnel identified a large number of dead fish impinged on the trash racks in the intake. The trash racks were cleaned and approximately 25 - 50 dead cow-nosed rays, *Rhinoptera bonasus*, were removed from the intake. This was determined to be a "significant event that indicates or could result in significant environmental impact causally related to station operation" thus was reported to the Nuclear Regulatory Commission (NRC) within 24 hours in accordance with Calvert Cliffs Nuclear Power Plant, Environmental Protection Plan (Non-Radiological) Technical Specifications, Section 4.1.

1. *Describe, analyze, and evaluate the event, including extent and magnitude of the impact and plant operating characteristics.*

An unusual number of dead fish on the trash racks in the intake was discovered at approximately 05:30 am on August 15, 2006 during normal operator rounds. Approximately 25-50 dead cow nosed rays, *Rhinoptera bonasus*, and a smaller number of other fish, were removed from the trash racks. The plant was operating at full power under normal conditions. The fish kill had no impact on power plant operation.

2. *Describe the probable cause of the event.*

The most probable cause of the death of the fish was low oxygen conditions in the bay.

3. *Indicate the action taken to correct the reported event.*

The fish were dead when found, no attempts were made to resuscitate. The dead fish were removed from the trash racks.

4. *Indicate the corrective action taken to preclude repetition of the event and to prevent similar occurrences involving similar components or systems.*

Calvert Cliffs Nuclear Power Plant has previously implemented a number of practices to reduce the potential for fish kills during periods of low ambient dissolved oxygen in Chesapeake Bay bottom waters which are typical during summer. These practices include:

- Removal of two panels in the baffle wall and replacement with 'screens' to allow surface water with higher dissolved oxygen concentration into the embayment area. These screens extend only a short distance (approximately two feet) below the surface of the water, providing a pathway for fish to escape the embayment area.
- Monitoring of dissolved oxygen levels in the intake.
- Continuous operation of the traveling screens during periods of low dissolved oxygen to improve fish survival.
- Operation of installed spray aeration pumps during periods of low dissolved oxygen to create areas of higher oxygen where fish can recover from the effects of the low oxygen.

These actions were in place on August 15th, at the time of the observed fish kill. No additional actions were taken to preclude repetition of the event.

5. *Indicate the agencies notified and their preliminary responses.*

No other agencies were formally notified. The site's National Pollutant Discharge Elimination System permit, Special Condition N, requires the Maryland Department of the Environment and the Department of Natural Resources to be notified of fish kills only if they are substantial enough to cause modifications to plant operations. As stated above, no change to plant operations resulted from this event.