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August 10, 2005

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), Appendix B, Technical Specification 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 discovery of moribund or dead cow-nosed rays in the trash racks.

The most probable cause of the death of the rays was low oxygen conditions in the bay. However, it could not be determined whether mortality occurred before or after the rays entered the intake embayment.

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

Very truly yours,

for
George Vanderheyden
Vice President - Calvert Cliffs Nuclear Power Plant

GV/JTJ/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
E. W. Brach, NRC
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ATTACHMENT (1)

UNUSUAL FISH KILL EVENT AT

CALVERT CLIFFS NUCLEAR POWER PLANT

Calvert Cliffs Nuclear Power Plant, Inc.
August 10, 2005

ATTACHMENT (1)

UNUSUAL FISH KILL EVENT AT CALVERT CLIFFS NUCLEAR POWER PLANT

On July 15, 2005 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 between 80 and 100 moribund or 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, Technical Specification, Appendix B, 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 moribund or dead fish on the trash racks in the intake was discovered at approximately 9:45 am on July 15, 2005 during normal operator rounds. There were no dead fish observed floating in the intake embayment area. The plant was operating at full power under normal conditions. The fish kill had no impact on power plant operation. Between 80 and 100 dead cow nosed rays, *Rhinoptera bonasus,* were removed from the trash racks.

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

The most probable cause of the death of the rays was low oxygen conditions in the bay. It could not be determined whether mortality occurred before or after the rays entered the intake embayment.

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

The rays were moribund or dead when found, no attempts were made to resuscitate. The dead rays 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:

- Monitoring of dissolved oxygen levels in the intake.
- 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.
- 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 July 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 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.