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AUTH. NAME AUTHOR AFFILIATION
 BROOKS, R.H. Tennessee Valley Authority
 RECIP. NAME RECIPIENT AFFILIATION
 HORN, C. Alabama, State of

SUBJECT: NPDES noncompliance notification: on 871221, notification of leak in sedimentation pond Discharge Serial 102.

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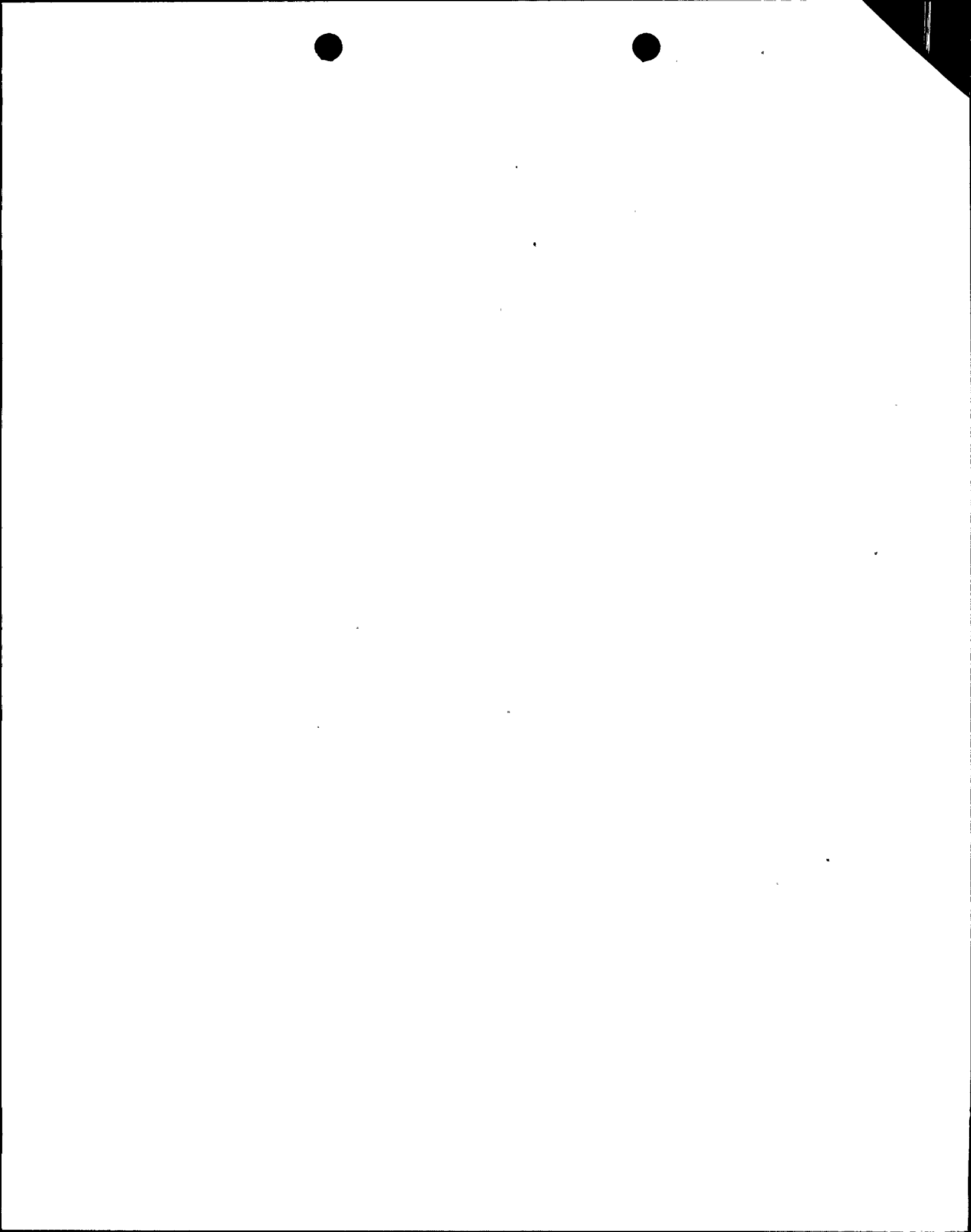
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TENNESSEE VALLEY AUTHORITY
KNOXVILLE, TENNESSEE 37902

Mr. Charles Horn, Director
Water Division
Alabama Department of
Environmental Management
1751 Federal Drive
Montgomery, Alabama 36130

Attention: Ms. Treena Piznar

Dear Mr Horn:

BROWNS FERRY NUCLEAR PLANT (BFN) - NPDES PERMIT NO. AL0022080 -
NOTIFICATION OF LEAK IN SEDIMENTATION POND - DISCHARGE SERIAL NO. 102

This confirms TVA's December 21, 1987, telephone notification to Treena Piznar of your staff regarding a leak in the subject pond and our plans to repair the pond. On September 21, 1987, BFN's radiochemistry laboratory personnel observed that the elevation of the wastewater in the sedimentation pond had dropped four inches (approximately 146,000 gallons) over the weekend with no discharge through the permitted point. This was investigated, and no obvious causes for the loss could be determined. On September 28, 1987, BFN laboratory personnel observed a loss of an additional two inches of elevation (approximately 73,000 gallons). During a second investigation, a seepage point was located in the switchyard drainage ditch in the vicinity of the pond. The flow rate from the seep was estimated to be one to two gallons per minute (gpm) and the pH was 3.5 standard units.

The pond's contents were discharged in compliance with the permit to lower the surface elevation to about six inches. This was done to reduce the static head and determine if the pond was the source of the seepage. On October 8, 1987, it was estimated that the flow rate from the seep had dropped to less than 0.25 gpm. In an effort to more clearly establish a relationship between the seep and the pond surface elevation, the water level in the pond was increased to 15 inches using river water. Pumping to increase the level was terminated on October 16, 1987, and the flow from the seepage point was observed to be nonexistent. However, on October 26, 1987, the pond elevation had dropped to 11 inches and the flow rate from the seep had increased detectably. Therefore, we concluded that a high probability exists that the flow rate from the seepage point is a function of the pond surface elevation.

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PDR ADOCK 05000259
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Mr. Charles Horn

The pond was taken out of service on November 2, 1987. In the interim, inflow to the sedimentation pond is being routed to the lined pond where it will be held until the sedimentation pond can be returned to service; the elevation of the lined pond is being observed to assure that no discharges occur from it. A portion of the dike on the south end of the sedimentation pond is the suspected source of the leak. This portion is part of the original dike that was not rebuilt during similar maintenance activities in 1984. Repair work is in progress to replace this portion of the dike with compacted clay in accordance with Alabama Department of Environmental Management guidelines. To facilitate the repair work on the dike, four inches of accumulated rainwater was discharged from the sedimentation pond on December 28, 1987, and monitored in accordance with the NPDES permit.

Once repairs are complete, we will test the success of the repairs by filling the pond with river water and observing for any leakage or reduction in elevation of the pond's contents. Upon satisfactory performance, we plan to then put the sedimentation pond back into service and transfer to it the contents of the lined pond. If the test is not successful, we will request further guidance on how to proceed. When the repairs and the test are completed, we will submit a letter to your office that describes how the sedimentation pond was originally constructed (to the best of our knowledge), the extent of the repairs, and the results of the test. We estimate that this report will be submitted by April 1.

If your staff has any questions concerning this matter, please have them contact Madonna E. Martin at (615) 632-6695 in Knoxville, Tennessee.

Sincerely,

Ralph H. Brooks
for Ralph H. Brooks, Director
Environmental Quality

cc: Mr. K. P. Barr, Acting Assistant Director
for Inspection Programs
TVA Projects Division
Office of Special Projects
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW., Suite 2900
Atlanta, Georgia 30323

Continued on page 3

Mr. Charles Horn

cc: Mr. Bruce R. Barrett, Director
Water Management Division
U.S. Environmental Protection Agency
Region IV
345 Courtland Street, NE.
Atlanta, Georgia 30365

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Mr. G. G. Zech, Assistant Director
for Projects
TVA Projects Division
Office of Special Projects
U.S. Nuclear Regulatory Commission
4350 East-West Highway
EWW 322
Bethesda, Maryland 20814

