

NON-COMPLIANCE REPORT

Arkansas Department of Environmental Quality
NPDES Enforcement Section
5301 Northshore Drive
North Little Rock, AR 72118

RE: NPDES Permit No: AR0049611 Discharge Number: 001

Facility: Arkansas Electric Cooperative Corporation - Magnet Cove Generating Station

Address: 410 Henderson Road

City: Malvern State: AR Zip: 72104

Contact: Mark Folsland Phone: 843-259-8133

Date of Non-Compliance	Parameter Exceeded	Quantity or Loading	Quality or Concentration	Permit Limits
11/7/2022	Chlorine tank leak			

We feel this problem was due to:

See attached.

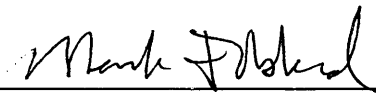
We plan on correcting the problem in this manner:

See attached.

Time estimated that it will take to correct problem:

See attached.

Sincerely,



Authorized Signature

12-5-2022

Date

Certification Statement: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (Revised March 2016)

**Noncompliance Report for November 2022 DMR
Magnet Cove Generating Station
NPDES Permit No. AR0049611, AFIN 30-00337**

At approximately 4:40 a.m. on November 7, operators at Arkansas Electric Cooperative Corporation's (AECC's) Magnet Cove Generating Station received an alarm that the 12% chlorine solution tank level had dropped to a low level. Upon immediate investigation, plant staff discovered that this was due to a break in a 2-inch pipeline which comes from the tank into the water treatment building.

Prior to discovery, the chlorine solution filled a shallow, curbed containment area inside the water treatment building which spilled over into a floor drain. The solution gravity drained to a collection sump located outside the building. The solution co-mingled with whatever existing stormwater was in the sump along with any other low-quality water already in the sump. Once the level in the sump reached a certain level, a level alarm started a pump that pumped the contents of the sump to the holding tank of the oily-water separator. The oily-water separator operated batch discharges of treated discharge through internal Outfall 01B into the mixing chamber. Here, the Outfall 01A discharge co-mingled with cooling tower blowdown discharging into the mixing chamber through Outfall 01A. This mixture then exited the mixing chamber and discharged through a pipe to the Ouachita River through Outfall 001.

Upon the leak discovery, staff took immediate action to secure the collection sump and oily water separator holding tank and stop all flows to the mixing chamber which stopped any discharge to the river. A grab sample was taken with a chlorine meter at the weir in the mixing chamber. The device maxed out at 3.5 ppm; therefore, exactly how high the chlorine concentration was at the time of discharge is unknown.

Immediately, plant staff hired a contractor to bring a vacuum truck to vacuum the remaining solution from the curbed containment area in the building, the sump, the oily water separator holding tank, and the mixing chamber. The recovered solution was then transferred to the cooling tower system where it would be cycled while the plant operated and then properly treated prior to blowdown at a compliant level and then discharged through Outfall 01A.

While the remaining solution was being recovered, plant staff visited the outfall location at the river (Outfall 001). It was determined that there did not seem to be any harm to the environment or health. There was moss and algae intact in the discharge channel to the river, and there was no evidence of aquatic life mortality. Additionally, plant staff noticed only a very slight odor of chlorine at the end of the discharge pipe. From this evidence, AECC believed that a 24-hour report was not required. As a further precautionary measure, AECC notified DEQ personnel at the Office of Water Quality Enforcement Branch of the incident.¹ After a brief discussion, it was confirmed that a 24-hour report was not necessary.

Looking at the tank level data in the historian, the leak seems to have begun at approximately 3:15 a.m. Between 3:15 a.m. and 4:40 a.m., there were four batch discharges of approximately two minutes each at a rate of approximately 400 GPM from the oily water separator through Outfall 01B to the mixing

¹ Stephen Cain and Mark Folsland, both of AECC, spoke with Richard Healey of DEQ on November 7 at approximately 1:15 pm.

chamber prior to discovery of the chlorine solution leak. So, there were four batch discharges of approximately 800 gallons each of the chlorine solution sent to the mixing chamber. There was about 15 minutes between each batch discharge. Cooling tower blowdown was being discharged through Outfall 01A into the mixing chamber continuously throughout this time period at a rate of approximately 215 GPM, so the batch discharges of chlorine solution were being constantly diluted before exiting the mixing chamber to the external outfall (Outfall 001).

AECC is working to understand the root cause of this event to make necessary repairs and adjustments to ensure the plant does not experience a similar event and is in compliance in the future. The break in the line seemed to be from overpressure, but the cause of that overpressure is currently undetermined. It was not freezing conditions, and water hammer was ruled out.

One adjustment that will be made to prevent a future occurrence is to temporarily replace the automatic pump switch on the water treatment building collection sump to a manual pump switch. This way plant personnel would have an opportunity to visually and sensually inspect the contents of the sump prior to allowing the contents to be pumped to the oily water separator. If there was a problem with the contents in the sump, then it could be held in the sump until it could be properly recovered. This will be a temporary measure until a permanent solution is installed.

For questions and comments, please contact Stephen Cain at 501-570-2420.