

Richard Healey (adpce.ad)

From: Charles McDowell <CMcDowell@lsbindustries.com>
Sent: Friday, January 13, 2023 2:35 PM
To: Michael Young (adpce.ad); Richard Healey (adpce.ad)
Cc: Keith Long; Derek Turner
Subject: RE: UPDATE: El Dorado Chemical Company AR0000752

Timeline:

On December 27th, Outfall 010 from Lake Killdeer was increased to near 2MGD discharge rate to prevent overtopping the Lake Killdeer spillway.

During the night of January 2nd, EDC received approximately 3.5 inches of rain.

At approximately 11:00 PM January 2nd, it appears based on depth readings that Lake Killdeer began to over flow.

January 3rd, at 8:17 initial notification of spillway overflow and opening of Outfall 001 was made to ADEQ.

January 3rd, at 8:19 AM Outfall 001 was opened after verbal notification to ADEQ..

January 3rd, at 9:00 AM Lake Killdeer crested at 0.55 feet over the spillway.

January 5th, at 7:08 AM, based on depth measurements and confirmed by visual observation the overflow for Lake Killdeer was no longer overflowing.

On January 9th, at 10:30 AM, Outfall 001 was closed and Killdeer was at 0.99 feet freeboard.

Major Contributing factor:

On the 2nd of January, EDC pumped 2.4 million gallons into Lake Killdeer from the plant and pumped 1.9 million gallons into the pipeline. This net gain of 0.5 million gallons would have increased the levels in Lake Killdeer by approximately 0.33 inches. However, Lake Killdeer rose approximately 8 inches in 8 hours, plus the volume discharged over the spillway.

The contributing watershed for lake Killdeer is approximately 305 acres. It is evident that during this heavy rain over a short period of time coupled with already saturated soils conditions were created whereby infiltration into the soil was minimized and a large percentage of the rainfall became runoff into Lake Killdeer. Additional heavy, short term rain events can be expected to present similar conditions.

Corrective Actions:

Corrective actions will center around Identifying and quantifying Inflows/loadings, Eliminating/Minimizing Inflows and Loading, Optimizing/Maximizing Treatment and Discharge in that order of priority. Currently, with the assistance of GBMc, we are evaluating and implementing additional BMPs to reduce stormwater exposure. Since October, El Dorado Chemical has been working with Barr Engineering to develop a plan to increase recycling and reduce the volume of wastewater water being sent to Lake Killdeer. We are also exploring options for non-discharge treatment of Ammonia and nitrates which will reduce loading and maximize discharge. In particular, we are evaluating usage of an air stripper and ion exchange resin or the use of a large-scale evaporator. This evaluation is in the preliminary engineering stages. As we develop details of this corrective action plan, we will continue to keep ADEQ informed through periodic (quarterly) progress reports.

Charles McDowell | Environmental Leader | LSB INDUSTRIES, Inc. (NYSE: LXU) | El Dorado Chemical Plant | 4500 North West Avenue, El Dorado, Arkansas 71731

 O: 870-863-1403 |  M: 870-310-6696 |  E: email cmcdowell@lsbindustries.com

From: Charles McDowell

Sent: Monday, January 9, 2023 1:40 PM

To: 'youngm@adeq.state.ar.us' <youngm@adeq.state.ar.us>; 'Healey, Richard' <healeyr@adeq.state.ar.us>
Cc: Keith Long <klong@lsbindustries.com>; Derek Turner <DTurner@lsbindustries.com>
Subject: RE: UPDATE: El Dorado Chemical Company AR0000752

At 10:30 this morning, we stopped discharging through Outfall 001. Lake Kildeer currently has 0.99 feet of freeboard.

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From: Charles McDowell

Sent: Thursday, January 5, 2023 9:48 AM

To: youngm@adeq.state.ar.us; Healey, Richard <healeyr@adeq.state.ar.us>

Cc: Keith Long <klong@lsbindustries.com>; Derek Turner <DTurner@lsbindustries.com>

Subject: UPDATE: El Dorado Chemical Company AR0000752

At approximately 7:08 this morning. The overflow for Lake Kildeer is no longer overflowing. It reached it's highest level at 9:00 am on the 2nd at 0.55 feet over the spillway. Due to being at the maximum level at Lake Kildeer, Outfalls 001 and 010 are continuing to discharge.

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From: Charles McDowell

Sent: Tuesday, January 3, 2023 3:18 PM

To: youngm@adeq.state.ar.us; Healey, Richard <healeyr@adeq.state.ar.us>

Cc: Keith Long <klong@lsbindustries.com>; Derek Turner <DTurner@lsbindustries.com>

Subject: El Dorado Chemical Company AR0000752

Since July, El Dorado Chemical has been actively managing its discharges from Outfall 010, i.e., from Lake Killdeer, to be in compliance with Outfall 010 compliance parameters. Due to high rainfall and choosing to limit discharge volume through Outfall 010 the water level in Lake Killdeer was not able to be reduced as much as normal during the late summer months.

During the night, the facility received 3.5 inches of rain. Rainfall results in increased volume of Lake Killdeer from the plant footprint which all drains into Lake Killdeer, drainage from owned property outside the plant drainage system, and from non-owned off plant property. This rainfall coupled with the already high levels at Lake Killdeer caused the water depth to exceed the spillway height. This was discovered at 8:03 AM this morning. Notification was attempted at 8:11 am to ADEQ at 870.310.3804, but the line did not pick up. Richard Healey with ADEQ was notified at 8:17 AM.

To help reduce the Lake Killdeer water levels, El Dorado Chemical opened Outfall 001 at 8:19 AM in addition to maximizing the discharge from Outfall 010. Samples are being collected for each discharge, including the overflow.

Since October, El Dorado Chemical has been working with Barr Engineering to develop a plan to reduce the volume of water being sent to Lake Killdeer. Additionally, EDC is working on ways to reduce the loading of the

Nitrates and Ammonia in the wastewater. As we develop this corrective action plan we will continue to keep ADEQ informed.

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