

Drinking Water Quality Regulator for Scotland

## Incident Summary

## Glendevon WTW Loss of coagulation and disinfection 29<sup>th</sup> October 2025

Event No. 15101

## **Event Category: Significant**

On the evening of 28th October 2024, the lime dosing system overdosed into the lime tank. The standby operator removed this tank from service. The following morning, maintenance attended to correct the fault with the lime screw feeder, and the operator drained the tank to allow for a correct strength batch to be made up. The chemical spill tank could not contain the full batch, and so the surplus was pumped to Wash Water Recovery Tank 3 (WWRT3), resulting in high pH water being returned to the head of the works. At 15:40 the operator noted that the coagulation pH was quickly rising, from pH 5.9 to over 11 (where the monitor flatlined) within 10 minutes.

The operator attempted a number of actions s to resolve this, including checking the monitors and dosing pumps; checking the zeta potential (it had decreased significantly); increasing the front-end pH dosing (sulphuric acid) and alum dosing. Despite these interventions, coagulation pH remained high, and at this point the operator noticed that raw pH was higher than coagulation pH, and that WWRT3 (containing the high-strength lime slurry) was decanting to the head of the works. The decant was stopped at 16:25, and coagulation pH returned to normal levels within half an hour.

This affected filter turbidities: combined filter turbidity peaked at 0.4NTU, with individual filter turbidities above their normal range for 4 hours, with three filters peaking at >1NTU.



Disinfection was then impacted. The lower quality filtered water caused chlorine demand to increase, leading to the low level emergency action levels (EALs) for chlorine being breached for over an hour.

The operator raised the chlorine dose to stop this occurring, but the chlorine residuals remained low, so this was increased again, which led the chlorine residuals to spike, reaching above 2mg/I (the monitor flatlines at 2.0) for over two hours. Final water chlorine residuals did not breach EALs

The incident was caused by operator error. The site operator disposed of very high pH water to the wash water tanks, which returned it to the start of the treatment stream, causing the incoming pH to increase sharply. The operator did not realise the source of the elevated pH for 45 minutes, by which time both coagulation and disinfection were compromised.

The event has been categorised as significant. Scottish Water has identified three actions which DWQR accepts are appropriate and will monitor to ensure they are completed prior to signing off the incident. DWQR made two additional recommendations.

