

Glendevon WTW Coagulation failure 19th November 2024

Event No. 15167

Event Category: Significant

On 19th November the Intelligent Control Centre (ICC) called out the standby operator for high turbidity alarms at Glendevon WTW. The operator increased the poly dose, but the turbidity continued to increase, with aluminium also breaching alarm levels. The poly dose was increased several times over the night and the situation escalated with a Business Alert Team (BAT) formed to assist with the event. Eight hours after the initial call-out, it was noted that the poly batch entering the supply was very weak, so the poly batching unit was swapped over to the standby unit. From this point onwards, the turbidity and aluminium levels began to recover, with it taking several hours for these to return to acceptable levels. Final aluminium levels breached the regulatory limit for 15 hours, and reactive and regulatory sampling in the network gave three failures for aluminium.

The poorly-filtered water had an effect on disinfection, as the combined filtered turbidity breached 1NTU for over eight hours. Chlorine set points were increased to combat this, and consequently high action levels were breached for several hours.

The incident was caused by a poly batching failure. This produced a weak batch of poly, which compromised the coagulation process, leading to filter breakthrough and an increase in turbidity and aluminium through the treatment process, and aluminium failures in supply. Scottish Water also identified that there are few on-site controls to allow site operators to identify this fault, which I note are being addressed.

Following this incident, two further coagulation events occurred in the following month, due to (unrelated) issues with poly dosing.

Water quality treatment at Glendevon WTW is achieved using outdoor, direct filtration, and is highly reliant on the poly dose to maintain effective treatment. These events highlight the lack of resilience at Glendevon WTW, which also has no auto-shutdown or run to waste facilities to allow operators to prevent non-compliant water entering supply.

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

