dwqr Drinking Water Quality Regulator for Scotland

Incident Summary

Torra WTW
Coagulation Failure
12th July 2022

DWQR Inspector:
Moira Malcolm

Event No. 12712

Event Category: Significant

On 12th July at 04:07 the Intelligent Control Centre (ICC) called the standby operator with a 'Main Dosing Plant' group alarm failure for Torra WTW. The operator asked for it to be monitored instead of attending as it was prone to nuisance alarm callouts. The operator was then called out at 06:47 for a 'First Stage Treatment' fail and multiple Rapid Gravity Filter (RGF) turbidity alarms so attended site. The operator found both the polyelectrolyte (poly) tanks empty, a secondary filter in fault, and high blanket levels. They contacted the team leader to escalate and inform them of the situation, and the decision was taken to close the Clear WaterTank (CWT) inlets and run to waste. The operator took a final water aluminium bench test (780µg/l) but did not inform the team leader of this result. The team leader was informed that the treated water chlorine Emergency Action Level (EAL) had been breached.

On site the operators refilled the poly tanks, increased the pump speed, and adjusted the primary filter washtimes to reduce floc carry over. After reviewing bench tests and online readings the plant was restarted at 13:50, with the CWT spiked with chlorine tablets and the inlet valves to the CWT opened at 15:00.

Five samples were taken throughout the incident, including a scheduled regulatory sample at 15:30 from the Torra final sample point which failed for aluminium (1109µg/l) and low chlorine (0.29mg/l). No Cryptosporidium samples were taken.

The incident was caused by the poly tanks running empty overnight. This lack of poly in the clarifiers caused the blankets to become unstable and floc carried over into the primary

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filters leading to the breach in final water aluminium; and low final chlorine due to the filter performance being compromised. The incident was exacerbated by Scottish Water's actions. Firstly the operator did not attend for the first alarm call-out which could have limited the duration of the incident. Alarms are grouped at Torra due to a lack of connectivity on site, and can lead to confusion – but without further clarity it is essential that the TOMS (Scottish Water's Treatment Operation and Maintenance Strategy) procedures to attend site are adhered to.

Critically the operators did not fully communicate the risk and aluminium failures to the team leader. This meant the incident was not escalated to the public health team who would have instigated further sampling (including Cryptosporidium sampling) and ensured sufficient investigation prior to returning the plant to service.

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