



Drinking Water Quality Regulator
for Scotland

Incident Summary

Lintrathen WTW
Loss of control of the treatment process
2nd February 2023

DWQR Inspector:
Andrew Kennedy

Event No. 13211

Event Category: Significant

On 1 February 2023, Lintrathen Water Treatment Works (WTW) was shut down for the planned installation of a new uninterrupted power supply (UPS). During this UPS installation, a change to the new polyelectrolyte supplier was made, following jar tests in September 2022 confirmed its suitability for use on site. When the works came back online on 1 February 2023, the filter turbidities started to rise with all filters breaching the Emergency Action Level (EAL) of 0.3NTU (Max 0.7NTU from Filters 2 and 4), prompting Operators and the Process Scientist to undertake jar tests and adjust the polyelectrolyte and Alum dosing. Further adjustments to the front end chemical dosing were made on 2 February 2023 to stabilise filter performance as the output of the works was increased. On 5 February, Scottish Waters Public Health Team received notification that a scheduled sample taken on 2 February 2023 had failed PCV for Aluminium (212µgAl/l), which corresponded with the period of sub-optimal filter performance. This failure prompted further investigation by Scottish Water, where it was identified that final water aluminium levels had been increasing since November 2022, however this had not been picked up, partly due to a discrepancy in the online monitoring of filtered aluminium and a lack of escalation of elevated filtered water aluminium bench test results. Throughout this incident, Scottish Water had six aluminium PCV breaches from Final Water Samples from Lintrathen WTW (Max 346µgAl/l) and one aluminium PCV breach from the downstream Kirriemuirhill Service Reservoir Outlet (238µgAl/l).

It is clear that this incident and Aluminium PCV breaches were due to ongoing sub-optimal coagulation following a deterioration in raw water quality. However, I must note that this incident could have been avoided, had the filtered aluminium SCADA data been accurate or had laboratory result trends been analysed.

The event has been categorised as significant. Scottish Water has identified five 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.

