

Picketlaw WTW loss of control of treatment process

2nd -6th December 2023

DWQR Inspector:
Robert Brooks

Event No. 14042

Event Category: Significant

On the 02 December 2023, Picketlaw WTW was manually shutdown twice within one hour of elevated final water aluminium concentrations which had breached the Emergency Action Level (EAL) due to a failure of front-end polyelectrolyte reaching the point of application. The plant auto shutdown failed to be operated on high aluminium as intended because it had been deactivated. The plant was returned to service later that afternoon. The polyelectrolyte dosing system choked again shortly after the plant was restarted and chokes were cleared whilst the plant was still online. The site then had to be manually shutdown again that evening after filtered water aluminium began to breach EAL again. Three further spikes in aluminium occurred over the course of the next four days to the 06 December 2023.

Scottish Water's Public Health Team were alerted to the issues and additional sampling was arranged. 25 samples and two *Cryptosporidium* samples were taken between 02 December 2023 and 06 December 2023 from Picketlaw WTW, Picketlaw Regulatory Supply Zone and the SRs fed by Picketlaw WTW. Of these, one SR sample breached the Prescribed Concentration Value (PCV) for aluminium however it is thought that this was caused by disturbance of sediments as the PCVs for both Manganese and Iron were also elevated. All other parameters were shown to be satisfactory.

It is clear from the Scottish Water's event outcome report that this incident was caused by several process interruptions stemming from a large number of repeated failures of the front-

end polyelectrolyte system at Picketlaw WTW that resulted in a loss of control of optimal treatment and the forward flow of inadequately treated water to 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.

