

Glendevon WTW Coagulation failure 24th October 2021

DWQR Inspector:
Bill Byers

Event No. 12177

Event Category: Significant

On the 24th October, the standby operator was called to the works to attend a high aluminium process alarm. The Intelligent Control Centre (ICC) staff had been alerted by an earlier process alarm at 6:50am but as no other condition alarms had been raised, a decision had been taken to monitor the station performance.

Following arrival at the site at 10:42am, the operator switched polymer dosing from the duty pump to the standby pump to start recovery of the coagulation process and initiated backwashing of the poorest performing filters. Investigations showed that the speed of the dosing pump had fallen from the set 60% to 18%, resulting in a reduction in polymer dosing and loss of optimal coagulation. The weaker formed floc then passed forward onto and through the filters which resulted in rising levels of turbidity and aluminium in the treated water. Monitoring of process water quality indicates trends to have returned to normal after some eight hours from the initial alarm. The consequence of the interruption to coagulation however resulted in one failure of the Aluminium standard and detection of 1 *Cryptosporidium Oocyst* in event response samples of the final water. Subsequent daily samples showed there to be no further failures of water quality standards.

Investigations by Scottish Water have identified a signal control fault within the polymer dosing pump to be the root cause of the failure of the coagulation process. Replacement of the timer unit appears to have resolved the problems and I am content with their findings. It is clear however that there was an issue at this site with the individual filter turbidity monitors where the 'Hi' alarm point had not been linked to telemetry. Had this been the case, an earlier indication of the issue could have been raised and steps taken to arrest the process failure.

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

