

Incident Summary

Bonnycraig WTW
Treatment failure
June 2018

DWQR Inspector:
Moira Malcolm

Event No. 9420

Event Category: Significant

Cryptosporidium was detected in the final water from Bonnycraig WTW on 7 occasions from 27 June to 11 July 2018. An investigation following the first failure discovered that there had been failures of the UV treatment process over the previous three days and the UV dose required to inactivate Cryptosporidium had not been achieved during short periods over this time.

Scottish Water's investigation of the incident found that the UV intensity sensors were faulty. This caused the UV control to switch over from duty to standby reactor. However the fault would quickly clear and the duty reactor would take over again after a three minute warm-up period. This changeover and back again caused UV intensity to drop below the required level to inactivate Cryptosporidium as per the control philosophy.

During the investigation it was also found that filter 5 outlet valve was not being adequately controlled – resulting in much higher than usual turbidity and forward flow from this filter to the UV reactors. This potentially allowed Cryptosporidium oocysts to escape the filters. The final water turbidity was not affected by the increased turbidity from this single filter, so it had not been noticed that there was an issue.

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 one additional recommendation.