Drinking Water Quality Regulator for Scotland

Incident Summary

Tomich WTW Disinfection Issue 28th April 2023

DWQR Inspector:
Moira Malcolm

Event No. 13368

Event Category: Significant

28th April a treatment operator for Tomich WTW responded to a plant shutdown following a 'high high treated water chlorine' alarm. The operator restarted the plant but noticed that the treated and dosed chlorine were reading off the scale of the monitors – confirmed by bench tests (>2.2mg/l). Sodium hypochlorite (hypo) pump A was closed (there had been issues with this pump the previous day), then after escalating the information to the team leader, the decision was made to isolate the clear water tank (CWT) and scour it to prevent this water entering the network, with tankers deployed to augment the supply. Hypo pump A was fixed that day and normal supply to consumers resumed by 17:50.

On 26th May the ICC called out a similar chlorine event at Tomich WTW. The operator again found dosed and treated chlorine >2mg/l with the final climbing high, albeit still within acceptable levels. The operator stopped forward flow and ran the plant to waste with one CWT cell drained down and the other monitored to ensure final water remained compliant.

During the first event there were 18 consumer contacts – (most for no water/low pressure); three for water quality (colour and chlorine taste/odour). There were no complaints received on 26th May.

Scottish Water's investigation discovered that both chlorine events were caused by the non-return valve at the borehole wellhead being not seated properly. When the works was offline the water in the raw main drained back towards the borehole. This created a negative head with greater pressure than the chlorine dosing valves, which lead to hypochlorite siphoning from the storage tanks into the raw water main. When the works restarted this high-chlorine water was fed through the WTW, into the CWT and forward to supply.

The first event followed issues with one of the hypo pumps and so this was initially thought to be the cause. The actual root cause was not discovered until the second event occurred.

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

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