Drinking Water Quality Regulator for Scotland

Incident Summary

Tarbert Argyll WTW
Aluminum failure
27 October 2017

DWQR Inspector:
Moira Malcolm

Event No. 8903

Event Category: Significant

At 19:30 on 27th October 2017 the Intelligent Control Centre (ICC) reported a fault from Tarbert Argyll Water Treatment Works (WTW) to the standby operator who arrived on site to find the works running to waste. This was due to a PLC issue which had stopped the air supply to the Dissolved Air Flotation (DAF) unit and corrupted several of the instruments. The standby operator shut down the plant, called for maintenance assistance to address the PLC fault and called the escalation team leader who organised tankering and informed ICC and the North Operations Manager.

Overnight the PLC fault was found and remedied and the plant restarted (still running to waste) with the 3 filters queued to be washed in turn before returning to service. When the first filter was clean, the run to waste was stopped and tankering into the chlorine contact tank (CCT) (the normal procedure for this site) began to supplement the supply and allow sufficient capacity for the other filters to be backwashed. To transfer water from the CCT forwards to the manganese contact tanks (MCT) the high lift pumps were switched on.

The operator noted that the treated alum monitor value was stationary, so replaced the reagents and flushed and re-calibrated the equipment. A dip in the residual chlorine level was also noted so sodium hypochlorite was dosed into the CCT. The treated alum monitor did not change as expected, so the operator took extra bench samples. The operators started backwashing the MCTs and rewashing the filters in turn.

At 08:50 on the 28th October whilst taking comparing online and bench samples from the final water aluminium sample point the operator identified that the instrument was reading above the regulatory standard at 0.264mg/l (the bench reading was 0.170mg/l). When two hours later the final alum monitor remained above the standard, the escalation team leader requested a sampling programme from the public health team (PHT). The treated water aluminium concentration eventually fell below the regulatory standard at 14:25.

The sampler arrived on site and took samples at 18:30. Further lab samples were taken on 29th October. Both of these samples confirmed that the aluminium levels had returned to normal.

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.