

Incident Summary

South Moorhouse WTW Coagulation Failure December 2016

DWQR Inspector:
Colette Robertson-Kellie

Event No. 8210

Event Category: Significant

At 11:55 on the 18th December 2016, the Intelligent Control Centre (ICC) received an alarm for low coagulation pH at South Moorhouse WTW, and rapidly passed it on to Operations. There had already been two call outs for low coagulation pH on the evening before and on the morning of this alarm, which had been assumed by Operations staff to be lime blockages. The Operator's investigation of this third call out showed that the pre-lime dosing pump had failed. There was no standby lime dosing pump as it had been awaiting repair for a month; this repair had been delayed due to a failure to follow the Scottish Water ordering process and a long lead time for the delivery of this pump. No fitters were immediately available to repair the pump, so the Operator shut the works down. When the fitter was available, no fault could be found with the pump, and so following maintenance checks, the pump was switched back on. It quickly became apparent that the pump was still faulty, and so as an interim solution, dosing pipework was reconfigured, and one of the final water lime dosing pumps was used instead. The fault in the pump was subsequently found to be a low oil level.

Final water aluminium levels results from the works exceeded the PCV of 200µg/l for five and a half hours. A scheduled sample was taken from the network, but no monitoring from consumers' properties was carried out in response to this incident, so the impact on consumers is unknown. No *Cryptosporidium* samples were taken, despite Scottish Water's internal procedures requiring this.

The incident was caused by the failure of a lime pump due to a lack of appropriate maintenance. The incident was significantly exacerbated by a lack of knowledge of this particular type of pump as well as the failure to have a standby lime pump for the coagulation pH correction process.

The event has been categorised as Significant. Scottish Water has identified eleven 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.

