



Drinking Water Quality Regulator
for Scotland

Incident Summary

Mannofield WTW
Loss of disinfection
5 July 2016

DWQR Inspector:
William Byers

Event No. 7774

Event Category: Significant

At 01:20 on 5 July, the control centre received an alarm for low chlorine at the outlet from the chlorine contact tank. On arrival at the site, the standby treatment works operator reviewed control system information and carried out a bench test of the water which confirmed the low chlorine level. Investigations indicated conflicting information on the chlorine gas flow and the system was switched to manual control to enable further examination of the process. A review of all processes showed the service water pumps had failed as a result of low pressure in the service water line. This provides carrier water for chlorine gas dosing, batching water for chemicals and welfare facilities. On resetting the pumps, it raised a further alarm from the polyelectrolyte batching system indicating no service water at all. This too was set to manual process and chemical dosing tanks were checked to ensure sufficient levels in order the coagulation process was not impaired. Examination of the controls for the polyelectrolyte dosing found the batching process was overdrawing the system and causing low pressure. The control settings held inhibitor time delays to ensure pressure recovery but continuing low pressure prevented operation of the pumps.

DWQR is satisfied that the root cause of the loss of disinfection was due to a low pressure in the service water system caused by overdrawing during batching of chemicals. This resulted in the service water pumps being prevented from operating due to control settings for a low pressure alarm.

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.

