

Incident Assessment

Mannofield WTW, Aberdeen
Loss of Process Control
August 2014

DWQR Inspector:
Matt Bower

Event Nos. 6208 and 6282

Event Category: Significant

Summary of Incident

Deteriorating raw water quality due to extreme weather in the catchment of this works which supplies Aberdeen, resulted in a loss of stability in the treatment process on two occasions in August. This caused elevated concentrations of aluminium in water leaving the works. Although concentrations exceeded the standards for aluminium and turbidity in the final water for short periods, there was no evidence of failures in samples taken from the distribution system. Aluminium concentrations were on occasions however, slightly above the norm for this supply. With a loss of process control, the risk of *Cryptosporidium* breakthrough would have been increased but there were no detections of *Cryptosporidium* in the final water.

DWQR Assessment of Cause of Incident

Scottish Water's monitoring data for raw water turbidity shows rapid rises in turbidity associated with deteriorating quality due to the poor weather in the River Dee catchment. Such rapid variations caused a loss in control of the coagulation process, resulting in a less effective treatment process and increased concentrations of aluminium. Varying raw water quality can challenge most treatment processes, however where these occur the process must be designed to respond to and manage such fluctuations. At the time of the events, the treatment process at Mannofield was not able to adequately respond due to a lack of robustness in the treatment process. Scottish Water was already aware of this and in the process of addressing it.

DWQR Assessment of Actions Taken by Scottish Water

Scottish Water correctly reported the situation to the local authority and health board. As the issue was relatively short lived on each occasion, there were minimal lasting consequences. A number of samples were taken across the supply area to establish the effect on water supplied to consumers, and these were all satisfactory.

Scottish Water had already commissioned a detailed report on the treatment process at Mannofield in addition to work it had undertaken itself. Many actions arising from this work have been completed, which should make the treatment process more resilient and better able to respond to changing raw water quality. DWQR is of the opinion that this work must continue, with an ongoing assessment as to its effectiveness. If necessary, provision must be made for further capital investment in the treatment process.

The event has been categorised as significant. Scottish Water has identified a number of actions and DWQR accepts that these are appropriate and will be monitoring to ensure all are completed prior to signing off the incident.

