Drinking Water Quality Regulator for Scotland

Incident Assessment

Kilbery WTW
Disinfection Failure
May 2011

DWQR Inspector:
Matthew Bower

Summary of Incident

On 4 May 2011 it was discovered that the water leaving Kilbery WTW contained almost no chlorine. The works is very basic and had very limited telemetry, so no alarm was received. Samples were taken and these met the required standard.

DWQR Assessment of the Cause of the Incident

This incident involved a failure of the disinfection process for a period of several days, with no alert being received by the Scottish Water control centre as the telemetry alarms for low chlorine were not operational at the time. The incident occurred when debris blocked the inlet to the works, resulting in an operator attending site following a low flow alarm. The operator restored the flow without realising that the chlorine dosing was set manually following an earlier issue at the works. The much higher flows, and possibly a change in raw water quality, meant that not enough chlorine was now being added, causing the low chlorine concentrations.

The situation at this works was highly unsatisfactory and DWQR reminds Scottish Water of its duty under Section 25(1) of the Water Supply (Water Quality) Scotland Regulations 2001, not to supply water from any source which consists of or includes raw water unless the water has been disinfected.

DWQR visited the site in August to discuss the matter with staff and look at the treatment works. Scottish Water acknowledges that the incident should not have happened and that the standard of dosing equipment and alarms at the site was inadequate following an earlier flooding incident two years ago.

DWQR Assessment of Actions Taken by Scottish Water

Scottish Water's response to this incident was appropriate, and chlorine residuals were quickly restored. Scottish Water has taken action to ensure that the chlorination system is controlled from the chlorine residual in the water and all monitors are connected to telemetry and generate the correct alarms.