

Incident Assessment

Picketlaw WTW Disinfection Failure 1 March 2012

DWQR Inspector:
William Byers

Summary of Incident

A failure of chlorine dosing was alerted to the Control Centre at 05:59 on 01 March 2012. The treatment operator attended the site at 07:30 and re-set the chlorinators. The plant however was unable to achieve a chlorine residual in the supply and after discussion with the Team Leader, the plant was shut down at 08:45. Investigation of the problem identified that condensation had frozen within the chlorine injection system which restricted the movement of the injector diaphragm. The issue was resolved and the plant was brought back on line by 11:00.

Direct application of hypochlorite solution to service reservoirs was carried out to maintain disinfection in the distribution system. A back feed from Bairdsknowe service reservoir was activated to ensure consumers fed directly from the works were not without water during the period the plant was shut off. Water samples were taken from service reservoirs and from properties in the supply zone.

DWQR Assessment of Cause of Incident

The cause of the incident was due to condensation freezing within the chlorine injection system and restricting the movement of the injector diaphragm permitting undisinfected water to be passed forward into supply.

DWQR Assessment of Actions Taken by Scottish Water

DWQR is satisfied that the relevant works procedures were followed in the response to the disinfection failure. Due to the supply arrangements to consumers however, undisinfected water was supplied to a small number of properties fed directly from the works for almost 3 hours and DWQR considers Scottish Water to have failed to meet a requirement of Regulation 25. The failure to take water samples from properties in this area, nor to advise consumers of the changed nature of their supply is unacceptable.

DWQR accepts that Scottish Water is investigating the possibilities of closure of this works and that this will have a bearing on the provision of an automatic shutdown facility in the event of process failures. Timing of achieving the alternative supply arrangements will be a factor and in the interim, Scottish Water should review its procedures to safeguard water quality to all consumers.

Scottish Water identified one action from this incident. DWQR accepts that this is appropriate and will be monitoring to ensure it is completed prior to signing off the incident.

Additionally, DWQR made two recommendations following this incident: