

Incident Summary

Fort Augustus WTW
Loss of disinfection
7 October 2017

DWQR Inspector:
Moira Malcolm

Event No. 8868

Event Category: Significant

On 7th October the ICC received a low treated water chlorine alarm. After monitoring this they passed it to the standby operator. He was on a rest period and unable to attend site, so the escalation team leader was contacted. He reviewed the telemetry and decided that the alarm was false as the site has an auto shutdown for low chlorine and this had not activated. When the standby operator attended site at the end of his rest period (eight hours later) he found that the chlorine pumps were not dosing. He manually shut down the site and dosed the clear water tank (CWT) with liquid sodium hypochlorite. Electrical & Mechanical (E&M) staff were called and attended site 1.5 hours later (due to travelling distances). They repaired the electrical fault and the plant was restarted.

On interrogation of the telemetry it actually appears that the works automatically shut down just prior to the arrival of the standby operator, and restarted before the arrival of E&M.

The operator took chlorine and microbiological samples from the CWT and in distribution, however the sample bottle used for the distribution sample was out of date and was not submitted for analysis.

During the incident inadequately disinfected water passed into distribution for almost 7 hours.

No complaints were received and NHS Highland submitted that no cases of gastrointestinal illness were reported to them involving anyone living in the Fort Augustus area between 7 and 21 October 2017.

The root cause of the incident was a loose wire affecting both chlorine dosing pumps and insufficient programming to instigate an auto shutdown when both chlorine dosing pumps failed simultaneously. Previous testing had assumed that only one pump would fail and was tested accordingly.

This was compounded by the assumption made by the escalation team leader that the chlorine alarm was false which prolonged the length of the reaction time for an operator to attend site.

There are no treated or final water monitors at Fort Augustus to allow remote operators to confidently assess how the works is operating and provide a record of the water quality being provided to consumers.

The lack of sampling carried out in distribution means that there is no reliable way to know how much chlorine residual was present in the supply throughout distribution.

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.

