

Storr Forest WTW
Disinfection Failure
16 Sept 2013

DWQR Inspector:
Matt Bower

Event No. 5594

Event Category: Significant

Summary of Incident

A routine sample taken from the treatment works final water contained 3 *E.coli* and 20 coliform bacteria. Chlorine dosed into the water was reduced compared with normal levels, although some chlorine was always present. Upon investigation, Scottish Water found that a plastic seal on the single dosing line had split, causing a leak. Additionally it is thought that an airlock may have formed caused by off-gassing of sodium hypochlorite.

DWQR Assessment of Cause of Incident

Storr Forest is a very basic treatment works consisting of disinfection of spring water. It is vulnerable to changes in raw water quality, although the two chlorine dosing pumps are able to adjust settings based on hypochlorite residuals to some extent. It is likely that the issues with the dosing line and gassing of the freshly made sodium hypochlorite overwhelmed any ability of the control system to compensate for the changing raw water quality.

Additionally, difficulties encountered by the control centre in passing out low chlorine alarms due to poor mobile telephone signals on the island meant that the operational response to the matter was delayed.

DWQR Assessment of Actions Taken by Scottish Water

Once the operator attended site, the issue was quickly remedied although some partially disinfected water did enter the tank and may have been responsible for the failing sample. Two properties prior to the tank were given bottled water. Scottish Water is planning to install more robust disinfection equipment at the site, along with a temporary filter to reduce the risk from *Cryptosporidium*, and a modern membrane plant is due to be completed in 2015.

Scottish Water has briefed staff about the need to escalate alarms promptly if it is not initially possible to contact the member of staff on duty.

DWQR considers these actions to be sufficient and welcomes work to upgrade the treatment at the site temporarily in preparation for the new treatment process. DWQR visited the site in February 2014.