



Drinking Water Quality Regulator
for Scotland

Incident Assessment

Fair Isle WTW Cryptosporidium Failure 24 July 2011

DWQR Inspector:
William Byers

Summary of Incident

A period of increased demand for water on the island began on 18 July, which required the introduction of an additional raw water source into Fair Isle Water Treatment Works. The Vaadal Burn, which is the original source for the works, is occasionally used to augment the normal borehole supply and was brought into service. The routine Cryptosporidium sample taken on 24 July failed and subsequent resamples showed a deteriorating quality. On 30 July, a boil notice was issued to all properties on the island on the advice of the Consultant in Public Health Medicine and bottled water was also distributed. Bad weather caused a delay in some samples reaching the laboratory as flights were cancelled from the island and these were subsequently transported by ferry. The boil notice was lifted on 5 August following confirmation that there had been no further detections of Cryptosporidium in a period of 3 days sampling and that drinking water quality had been restored.

DWQR Assessment of Cause of Incident

Cryptosporidium Oocysts are naturally present in the environment and are transported from the land into watercourses by rainfall. The Vaadal Burn was noted to be in a state of high colour due to heavy rain affecting the catchment area and the likely cause of this incident was the introduction of water from the burn into the treatment works.

DWQR Assessment of Actions Taken by Scottish Water

Actions to protect consumers

DWQR considers the monitoring of final water quality to have been inadequate following the introduction of the burn water into the treatment works. In addition, measurement of the turbidity of the final water was not possible due to the monitor being faulty. Once the sample results were available, Scottish Water took appropriate actions to consult with NHS Shetland, alert consumers and to restore water quality.

Actions to confirm the quality of water supplied

Reliance on the regular sampling programme meant a period of 6 days had elapsed when risk of Cryptosporidium detections was significantly increased and there was a consequent delay in alerting Health professionals to that risk. The condition of the burn should have alerted Scottish Water to the need to enhance their sampling for Cryptosporidium and immediate sampling should have been commenced.



Actions to restore water quality

Scottish Water is currently working to bring a second borehole supply on line to augment the main borehole source in times of high demand. This will avoid the need to utilise the Vaadar Burn to only times of extreme emergency. Scottish Water should ensure that adequate commissioning procedures and monitoring arrangements are in place for occasions when the Vaadar burn source is required.

Scottish Water has identified a number of actions from this incident. DWQR accepts that these are appropriate and will be monitoring to ensure they are completed prior to signing off the incident. In addition, DWQR has made one recommendation following this incident.

