



Drinking Water Quality Regulator
for Scotland

Incident Assessment

Kirkmichael WTW
Nitrite Failure
09 September 2011

DWQR Inspector:
William Byers

Summary of Incident

A sample taken from the final water produced at Kirkmichael WTW near Blairgowrie, failed the nitrite standard with a level of 0.252mg/l. Subsequent resamples from the works continued to fail reaching a maximum of 0.645mg/l in a sample taken on 26 October. Investigation of the disinfection process showed that there was a drift in the control set points for chemical dosing and the nitrite failures were a result of the changes in the chlorine levels and the drift in the chloramination ratio. It was not until 25 November that water quality was shown to be restored to consumers in the supply area.

DWQR declared this to be an incident due to the length of time taken to restore water quality.

DWQR Assessment of Cause of Incident

This treatment works uses chloramination as the disinfection process which requires a certain ratio of chlorine and ammonium sulphate to be maintained. A drift from the established dosing set points for the disinfection chemicals caused nitrites to be formed.

DWQR Assessment of Actions Taken by Scottish Water

Adjustments were made to the chloramination ratio to bring the process into control and Scottish Water carried out appropriate sampling to monitor water quality during the period. DWQR considers there to have been an unnecessarily long period of time taken before key adjustments and monitoring were put in place to fully resolve the problem.

