



Drinking Water Quality Regulator
for Scotland

Incident Summary

Lintrathen RSZ
Discolouration
23rd May 2022

DWQR Inspector:
Andrew Kennedy

Event No. 12586

Event Category: Significant

Following a clean and inspection at Coupar Angus Distribution Service Reservoir (DSR), the inlet ball valves of both cells were identified as needing replacement. On 17 May 2022, Cell 1 at Coupar Angus DSR was taken out of supply to replace the inlet ball valve, whilst Cell 2 remained in supply with a fixed level transducer, float switches and high and low alarms.

Following an 'SR Low-level' alarm on 17 May 2022, which was incorrectly interpreted by Scottish Water, Coupar Angus DSR went empty on 22 May 2022, resulting in 'No Water' complaints. A Network Service Operator (NSO) attended Coupar Angus DSR on 23 May 2022 and found that the inlet ball valve to Cell 2 was stuck partially open. Having adjusted the ball valve position, the level of the DSR began to recover quickly, however 118 discoloured water contacts were received between 23 May and 30 May 2022 following restoration of supplies. Twelve samples were taken between 25 May and 2 June 2022, with four failing for manganese (170.2µgMn/l).

It is clear that this incident was caused by the initial emptying and then uncontrolled recharge of Coupar Angus DSR and the downstream network which had depressurised. Flow and reservoir level data provided by Scottish Water showed that Coupar Angus DSR was near to empty at the point where the ball valve was adjusted to restore flow, however the flow increased from a normal operating level of approximately 15litres/sec to in excess of 65litres/sec. This sudden and significant increase in flow and velocity through the 300mm inlet main supplying Coupar Angus DSR is likely to have stripped biofilm and sediment from the pipe causing discolouration. Had a valve been throttled prior to dropping the ball valve, the reintroduction of flow into the reservoir could have been controlled, which is likely to have



significantly reduced the disturbance of material and transient discolouration through the network.

It is of concern that this incident was avoidable had there been clear communication between Scottish Water staff following the isolation of Cell 1 and the 'SR Low-level' alarm being received by the Intelligent Control Centre (ICC). Having isolated Cell 1 from supply, Cell 2 remained in supply with a fixed level transducer in place and associated high and low level alarms. Following receipt of an 'SR Low-level' alarm, the ICC contacted the Standby NSO who advised that the alarm could be ignored as Cell 2 was in supply, however the Standby NSO was unaware that the telemetry mimic for Coupar Angus DSR only showed one cell, which was that of the cell still in supply. This highlights a fundamental breakdown in communication and I believe that the ICC should have been contacted following the isolation of Cell 1 and advised that the levels of Cell 2 were correct and visible on telemetry with associated alarms.



The event has been categorised as significant. Scottish Water has identified six actions which DWQR accepts are appropriate and will monitor to ensure they are completed prior to signing off the incident. DWQR made two additional recommendations.

