

Clatto East Supply Zone
Discoloured Water
8 December 2015

DWQR Inspector:
William Byers

Event No. 7383

Event Category: Significant

Summary of Incident

On 8 December 2015, planned work was being undertaken to replace a meter on a water main in the Stobsmuir area in Dundee. Isolation of the water main to enable the work to proceed commenced at 10:00 hrs. Almost immediately, the field staff were alerted by the contact centre (CSC) to a number of calls from consumers of low pressure. Surmising there may be a problem sustaining peak flows through the remainder of the distribution system, a decision was taken to introduce a contingency back feed via another water main. Although this restored the pressure in the system, it resulted in increasing numbers of consumer contacts reporting discoloured water. With these adverse effects on the supply, it was decided to abandon and reschedule the planned work and all valves were restored to their normal positions.

The rescheduled work was carried out overnight on 10 December to minimise the impact on consumers. Whilst the work was carried out successfully, there were further reports of supply problems at this time resulting in a total of 179 contacts over the two periods of work. There was a failure in one sample taken to monitor the impact of the works on water quality. This was a microbiological failure in which 4 Coliforms were recorded.

DWQR Assessment of Cause of Incident

The cause of the discoloration lay in the opening of the backfeed supply into the zone. The flows generated in the Albert Road and Milton of Craigie Rd South water mains was twice the normal flow rate causing disturbance of deposits and their transport into the supply area. Whilst some flushing of the mains had been carried out prior to opening the valve, this proved inadequate to cleanse the mains. DWQR is of the view that there is an underlying issue, of an incomplete understanding of the operation of the distribution system in this area of the city, which contributed to this incident.

DWQR Assessment of Actions Taken by Scottish Water

Scottish Water undertook the necessary planning steps to prepare for the meter replacement works and the required authorisations were obtained. DWQR however considers there to have been an over reliance upon anecdotal understanding of the capabilities of the distribution system and the historic use of the contingency backfeed. The consequence of this was that checks on the current capabilities of the system were not made. Scottish Water has identified an action to investigate a possible blockage in the Douglas Road water mains, which, it is thought, prevented them from performing as expected. DWQR considers it essential that a clear understanding of the distribution system is gained and recorded.

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Scottish Water took responsible actions to minimise the impact of the unfolding discoloration event. DWQR is critical however of the breadth of sampling carried out to monitor the extent of the problem in the distribution system. Although consumer contacts arose principally within two District Meter Areas (DMA), samples, initially, were taken from only one. It was some four days after the first discoloration event that a sample was taken in the second DMA, by which time the impact had passed. The sample met the water quality standards but this was the only sample to be taken within the second DMA.

Scottish Water's procedures require staff and contractors to return completed impact assessment forms from the site upon which details of staff, valve closures and notifications are recorded in response to the plan. In this instance, there was no record. This failure to adhere to procedure is an issue DWQR has raised in a number of previous similar incidents where lack of control over activities has been a key finding. In the intervening few months, Scottish Water has introduced a new process to address these concerns and DWQR is reassured that this should bring greater rigour to control over mains intervention work.

The event has been categorised as significant. Scottish Water has identified a number of actions and DWQR accepts that these are appropriate. In addition, DWQR has made one recommendation and will be monitoring to ensure both it and the actions are completed prior to signing off the incident.

