

Carron Valley B RSZ
Discolouration causing significant
consumer concern
17 September 2014
Event Category: Significant

DWQR Inspector:
Moira Malcolm

Event No. 6368

Summary of Incident

On 17th September 2014 a burst water main occurred at Bogton Road, Denny. Whilst this (14") main was being repaired a second (18") burst occurred at Braes View, Denny on 18th September and a third (5") occurred at Bonnybridge Road, Bonnybridge on the 20th September. To effect the repairs, backfeeds from neighbouring areas were put in place. Little Denny service reservoir was recharged using tankered water, and tankered water was fed into the system via several fire hydrants in Bonnybridge to minimise the loss of water to customers. Over 850 customer contacts were received over six days reporting discolouration and loss of water. Samples were taken from consumer's taps during the incident.

DWQR Assessment of Cause of Incident

The cause of the incident was the failure of a pressure reducing valve (PRV) at Blaefaulds, which resulted in the PRV opening fully and putting excessive pressure into the network. This caused the bursts and this, combined with the subsequent backfeeds and tankering operations, caused a disturbance of pipe deposits which produced the PCV failures. There was no network activity prior to the first burst.

DWQR Assessment of Actions Taken by Scottish Water

DWQR are satisfied that, in the main, Scottish Water responded appropriately to the event and took the necessary steps to contain and resolve the situation. Several issues were noted and are pertinent:

1. 17 customer samples were taken during the incident in Bonnybridge and Denny, areas adjacent to the bursts. Seven samples failed the prescribed concentration or value (PCV) for manganese; two of these also failed for iron with one of these two also failing for aluminium and turbidity and the other also failing for *Clostridium*. Resamples taken the following week were within regulatory limits. DWQR is satisfied that these samples are representative of the location of the bursts and of the majority of the customer contacts. However a number of customer contacts were also received from neighbouring areas, especially Stenhousemuir where the supply was being backfed, and where no sampling was undertaken. It is assumed that complaints of discolouration from these neighbouring areas were due to the backfeed operation, but without data to support this it is not possible to categorically confirm this.

2. A suitable amount of sampling of the tankered water was undertaken to demonstrate that this water was of satisfactory quality.

3. The Distribution Operation Maintenance Strategy (DOMS) impact assessment report produced for the burst repair at Bogton Road details that tankered water was brought in to feed a nearby hydrant, however Scottish Water have confirmed that this was not done, although tankered water was injected at other locations during the incident. DWQR is of the opinion that direct injection of tankered water into a system is an inherently high risk activity, and it is likely that resulting reversals in flow and scouring of deposits were the cause of some of the quality failures and complaints that occurred during the incident. Whilst accepting that this practice may occasionally be necessary in order to maintain pressure in a system during an emergency situation, DWQR believes that strict safeguards must be in place to protect quality. Consequently, DWQR Recommendation 3 requires Scottish Water to address this aspect.

The event has been categorised as Significant. Scottish Water has identified one action and DWQR accepts that this is appropriate. Additionally, DWQR has made three recommendations and will be monitoring to ensure both these and action are completed prior to signing off the incident.

