

# Incident Assessment

## Lomond Hills RSZ Discolouration and Significant Consumer Concern 12 September 2014

DWQR Inspector:  
Moira Malcolm

Event No. 6344

### Event Category: Major

### Summary of Incident

On 10<sup>th</sup> September 2014 Glenfarg WTW outflow to the network was increased to facilitate repair work on the network near Glendevon WTW. By the morning of Friday 12<sup>th</sup> September Glenfarg WTW was experiencing difficulties maintaining water quality so the decision was taken to increase the input from Lomond Hills WTW to the network and decrease the flow from Glenfarg. During the valve opening operation, no increased flow was initially noted at Lomond Hills WTW, so the valve was closed in case there was an issue at the treatment works. The works operator then noted an increase in flow, communicated this to the network operatives and the valve was reopened. This procedure, coupled with the pressure changes, caused the disturbance of deposits in the trunk main which then travelled through the network over the following five days. Because the slug of discoloured water was flowing in a major trunk main it was decided that flushing would not be useful as it would only disturb more deposits and so the discoloured water was allowed to run its course through the network with some 'soft' flushing done locally to improve discolouration, though this was only carried out on Sunday 14<sup>th</sup>.

Two bursts occurred during the event which may have been due to the valve operations. Both bursts were repaired quickly and the main recharged.

Complaints regarding discoloured water were received by Scottish Water from 10:00 on Saturday 13<sup>th</sup> September and continued until Wednesday 17<sup>th</sup> September, although the frequency of calls reduced from Sunday onwards. A total of 940 customer contacts were received throughout the event, plus two enquiries from NHS hospitals in North East Fife. Due to the pattern of customer contacts it can be presumed that the discolouration event took until the Wednesday to pass through the network.

It was not until the afternoon of Sunday 14<sup>th</sup> September that the event was communicated to the Water Operations Team Manager, Business Alert Team and Public Health Team (PHT). A Business Alert was raised and PHT advised on sampling, however none was undertaken as sampling resources could not be obtained on Sunday. The Standby Team Leader, without consultation with PHT, decided not to proceed with sampling the following day because contacts were decreasing. PHT were under the impression that sampling had been carried out. Samples were eventually taken almost a week later on 18<sup>th</sup> September by which time the incident had passed and water quality had returned to normal.

## DWQR Assessment of Cause of Incident

The cause of the incident was the action of opening, closing and reopening the valve in quick succession, coupled with the increased water pressure which disturbed sediment in the trunk main and a quantity of discoloured water travelled along the trunk main into the distribution network.

## DWQR Assessment of Actions Taken by Scottish Water

DWQR is wholly dissatisfied with the management of this event by Scottish Water. Operatives failed to assess the likely impact that the valving operation would have on the network and continued to ignore the impact despite the significant number of customer contacts received throughout the incident.

Several issues were noted and are pertinent:

1. The event was precipitated by the increased use of Glenfarg WTW to supplement the supply due to planned network repairs. When the treatment process at Glenfarg started to experience difficulties a hasty decision was made to switch to using water from Lomond Hills WTW. The increased pressure on Glenfarg WTW was, in DWQR's opinion, foreseeable and therefore there was the scope and time to make further arrangements for using Lomond Hills, or use a mix of Lomond Hills and Glenfarg to supplement the water supply. This would have enabled a considerable degree of planning to take place, allowing more time to implement the valving procedure with less pressure on personnel to complete the activity. It would also allow full Distribution Operations and Maintenance Strategy (DOMS) procedures to be followed.
2. The valve in question is a 'butterfly' style which can be difficult to regulate when operating. Thought should be given to replace this style of butterfly valve or provide better controls where these valves exist at key points in networks and fine control over flows is required.
3. The operatives involved had undertaken this valving operation before and thought it would not be problematic. Therefore they did not realise the severity and scope of the incident and did not escalate it effectively or with any haste. As a result the Water Operations Team Manager, Business Alert Team and Public Health Team (PHT) were not informed until Sunday 14<sup>th</sup> September and were not kept updated throughout the incident. Very poor levels of communication were exhibited throughout the incident. If PHT had been informed sooner during the event this may not have led to the problems with obtaining sampling staff resource on the Sunday afternoon.
4. Poor communication lead to no samples being taken to verify the extent of the incident because no samplers were available on the Sunday afternoon and staff did not know how to obtain sampling resource out of hours. It is not acceptable both that resource was not easily available, and that staff did not understand how to escalate this to obtain resources that were available.
5. PHT were not informed that sampling had not been undertaken. Without further consultation with PHT the Standby Team Leader decided that as calls were decreasing there was no requirement for sampling. It is not acceptable that this decision was taken without consultation with PHT and that no sampling was undertaken until Thursday 18<sup>th</sup> September – a full six days after the event occurred.
6. Due to the lack of sampling it is not possible to say how badly consumers were affected: either by duration; population; or severity. However the volume of contacts would suggest that this was very significant. This is completely unacceptable and especially disappointing as DWQR has discussed similar issues around incident sampling on numerous occasions in the past. Scottish Water must urgently address this deficiency in its operational procedures or be subject to Direction on this matter.



The event has been categorised as Major. Scottish Water has identified a number of actions and DWQR accepts that these are appropriate and will be monitoring to ensure all are completed prior to signing off the incident.

