

Incident Assessment

Crianlarich WTW Contamination Event 26 February 2012

DWQR Inspector:
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Summary of Incident

On 26 February 2012, at 18:54 hrs, Scottish Water received a telephone call from a consumer reporting a chemical smell from their drinking water supply. Initial checks with local staff and at the treatment works did not identify any cause for concern with the supply and the odour of the water was described as being musty. Late the following day, two further calls were received from consumers concerned with taste and odour in their water supply and one of these described as being similar to a paraffin odour. Thorough investigation of the issue was instigated on 28 February during which a fuel type odour was detected in the raw water inlet chamber at the water treatment works. An inspection of the intake found no obvious evidence of contamination and the supply from the works was closed off. Water was delivered to the clear water storage tank by tankers from 11:30hrs on 28 February to enable a thorough investigation of the catchment and treatment works and also to allow the system to be flushed with clean water. A restriction on use of the supply was also issued to consumers and remained in effect until Scottish Water were able to verify that the supply was again safe to use.

Prior to this event, Scottish Water had identified problems with the efficiency of submersible pumps which transferred water from the raw water inlet chamber to the membrane treatment plant. A temporary arrangement using a diesel pump was put in place to enable the first of the new submersible pumps to be fitted on 24 February. It was suspected that there may have been a problem during the works to install the pump or that the pump itself introduced contamination. Checks showed however that this was not the case and there was no issue with the temporary pumping arrangements. In order to carry out more intensive checks on the area it was decided to move the temporary diesel pump and in doing so, it became evident that a section of pipe forming the water suction pipeline had a defect and the pipe wall was suspected to be contaminated with diesel. This was removed from the site and later examined. The chamber, pipelines and membrane treatment plant were thoroughly cleaned and following verification of clear water samples the restrictions on use were lifted on Saturday 3 March.

DWQR Assessment of Cause of Incident

The incident was caused by the introduction of hydrocarbons into the water supply. DWQR is satisfied that the likely source was a defective section of temporary pipe put in place to draw water from the raw water inlet chamber. Examination of the pipe has shown the structure of the pipe wall to be compromised allowing it to be contaminated by diesel. The action of placing the pipe into the chamber caused the contaminant to be squeezed from the pipe wall and run down the outside of the pipe into the chamber. Analysis of the contaminant indicates that the pipe may have been exposed to the contamination fluid over a period of time and the temporary installation to the diesel pump at Crianlarich was not the source of the problem.

DWQR Assessment of Actions Taken by Scottish Water

The initial recognition of a developing contamination issue was hindered by a failure to follow escalation procedures for contacts describing water quality complaints of this nature. DWQR considers taste and odour complaints to be an important element of early warning of possible contamination of drinking water supplies and adherence to procedures is critical in mobilising the appropriate response. The absence of multiple calls reporting similar concerns however was a mitigating factor in enabling a fuller appreciation of the developing situation.

Scottish Water took the necessary steps to protect consumers in the response to the incident and during the fuller investigation. It is clear however that some time was lost in determining the source of the contamination and taking the decision to issue a restriction on use notice. DWQR considers the issuing of advice to consumers could have been more prompt and this lead to unnecessary exposure of consumers to the tainted supply.

DWQR visited the site on 7 March to inspect the arrangements and gain a clearer understanding of the incident.

Scottish Water has pursued the matter of the provision of unsuitable pipeline with the suppliers and has carried out an audit of both it's framework suppliers to emphasise the issue and protect against similar future occurrence. DWQR considers it essential that the supply chain is fully aware of the importance of preserving water quality and the potential routes for contaminants to reach the drinking water supply. A range of protective measures have been identified to be put in place for future hire of equipment.

Scottish Water has identified a number of actions from this incident. DWQR accepts that these are appropriate and will be monitoring to ensure they are completed prior to signing off the incident. Additionally, DWQR made one recommendation.