

Mannofield East supply zone Contamination of water supplies 6th February 2019

DWQR Inspector:
William Byers

Event No. 10008

Event Category: Significant

On 6th February 2019, a contractor working on behalf of a shipping company was cleaning brine tanks on a ship at Pocra Quay in Aberdeen Harbour. The process utilises a hose connection to a quayside water fill point and at around 20:50 hrs, a quantity of dirty wash water held in the brine tank was forced back into the water main when the ship's transfer pumps were operated. The error was quickly realised and the operation stopped with the event reported immediately to Scottish Water Horizons, who manage the use of shipping potable water at the harbour. Scottish Water Operations staff were mobilised to attend upon which, the Pocra Quay section of the water supply network was isolated at 22:30 hrs to prevent any effect on the wider distribution system. The event was escalated to the Public Health team and other managers and bottled water issued to premises within the Quay area with instructions not to use the mains water supply. All affected premises were business premises. A decision was taken to carry out controlled flushing of the water mains system over night and sampling was arranged to be carried out at addresses within the affected area and from properties outwith the area to provide information on the extent of any effect.

Sampling commenced early the next morning and continued over the following days. Results showed the containment of the contamination to the immediate Quay area with hydrocarbons and an elevated level of barium being measured. No impacts were observed in samples taken from the wider supply area.

Scottish Water's Byelaws team carried out inspections of the water mains throughout the



harbour area and in individual premises. This identified the existence of a number of unsecured hydrants with no backflow protection devices which are used as fill-points. These were capped or dismantled to prevent future use. A non-return valve was also fitted to the incoming water main at the boundary of the Pocra Quay supply area as a further safeguard against any future harbour area issue. Restrictions on water use were lifted on 15th February, except at one depot where a separate, unrelated issue with byelaws compliance had been identified. During the course of the event, there were no contacts received from consumers in the area or immediate vicinity concerning drinking water quality.

I am content that the likely cause of this contamination event has been identified as the backflow of wash water from a ship-based cleaning operation, into the water mains. Scottish Water advise that these stanchion hydrants should only be used for potable water supply as shipping export water and that it isn't normal for them to be used for cleaning purposes. There is a dedicated shipping/export water operator on site through Scottish Water Horizons, to supervise use of the hydrants. It is reported that this particular use of the hydrant by the cleaning contractor was unauthorised and therefore unsupervised. Scottish Water Horizons has introduced new procedures to bring tighter control to access shipping water also introducing a mobile tanker to form a physical break from the water mains network. I consider these to be a robust response to the risk of backflow. It is however of serious concern that this risk of backflow from shipping water fill points had not been previously addressed and the only control was administrative.

It is reassuring that a speedy response was made to the alert given by the shipping contractor of the backflow event. Scottish Water took the necessary action to firstly contain the effects of any contamination to the immediate harbour area and then to establish a controlled flushing of the water mains. A thorough sampling operation was established too, to monitor the extent of the contaminant and ultimately confirm that supplies had returned to normal.

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 three additional recommendations.