

Eela Regulation Zone, East Region

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DWQR Staff Present

Bill Byers

Scottish Water Staff Present

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(Dave Marwick via MS Teams 23/7/21)

Summary of Inspection

Overall Summary

An audit on aspects of the operation and maintenance of the Eela water supply distribution system with a focus on Aith service reservoir and the area supplied. Examination of sample records show there to be very few failures of water quality standards within the regulatory samples taken in the distribution system and at consumer taps but whilst consumer contacts are low in number, there are instances of discoloured water being experienced in some areas. The Eela distribution system comprises mostly of non metallic pipe materials with approximately only 2% of the system made up of unlined iron. In some areas of the Aith supply zone, small diameter AC water mains are unable to be flushed effectively and at the time of audit, measures were being taken to improve this in the Treste/Sandsound area. The integrity of Aith service reservoir appeared good but there was a slight film on the water surface that should be investigated. There is also a clear issue with the circulation of water within the overall storage volume, which has the potential to present periodic taste, odour or other water quality issues within the downstream water supply to consumers. This issue is recognised within the safety plan but funding is still awaited. The project should be re-examined for acceleration within the investment programme.

Number of Findings: 2

Quality of Water

Eela Water Treatment Works produces a chloraminated water supply. Records of water samples taken from the distribution system over recent years indicates that levels of disinfection by-products are consistently low and there have been no failures of microbiological standards at consumer taps or at storage points. In the 2020 reporting year, there were 22 consumer contacts over the entire Eela water supply zone. Whilst the number of contacts is low, fourteen of those are in relation to colour which equates to 26 per 10,000, almost double the SW average for discoloured water. Within the area supplied from Aith Service Reservoir (SR), there have been 13 contacts from January 2019 to date reporting either taste/odour or discoloured water issues.

Asset Robustness

The Eela distribution system comprises mostly of non metallic pipes with approximately only 2% of the system made up of unlined iron. There are ongoing programs of work to replace AC pipes and in the Aith distribution system, some 12.5km has been replaced. Evidence shows no failures of iron, manganese or aluminium standards with manganese being of very low levels. It is known however through consumer contact that there is an issue of discoloured water in parts of the Aith WSZ with small diameter AC pipes limiting the ability to effectively flush the water mains. Aith service reservoir is formed of concrete which appears in reasonable condition with minor hairline cracks. All access points had securely locked covers. Of the access point inspected, the fly screen was in good condition and a good seal was evident between frame and lid.

Operational Practices

Aith SR is formed of linked cells from elements of the former WTW. The Inspection report provided for the last inspection on 11 September 2020 notes that a flood test was passed. The reports also illustrate that with the balance pipes between cells being at a high level within the cells, there are likely to be significant elements of the storage which are not turned over giving concern for consistent outlet water quality. Inspection of the water space at the inlet chamber showed what appeared to be a slight froth and film on the surface of the water which needs investigating.

Management of Risk

Within the Treste/Sandsound area, iron tees & valves previously found to be tuberculated and causing flow restrictions and discoloration had been replaced in 2020 to allow improved flushing conditions and water quality. Works were being undertaken at the time of the audit to replace air valves to further alleviate flow and water quality issues and subsequently, replacement of scour valve assemblies on the line has also taken place. The shortcircuiting of flow through Aith storage point is acknowledged as an issue within the Safety Plan.

Recording Information

Information on the water supply distribution system is maintained in the Geofield GIS on field laptops. All NSO's etc. have access to the up to date information on layout and valve status.
The format of tank inspection reports provided by the Contractor are much improved, containing a high level of information on internal apparatus and internal/external condition.

Water Safety Plan

The poor circulation within and through the various elements of the SR creates the conditions for aged water to accumulate in pockets of the storage volume and these are likely to be drawn into the distribution system periodically, presenting potential taste, odour or other water quality issues for consumers. The issue has been recognised within the safety plan for a considerable period of time but funding is still awaited. The project should be re-examined for acceleration within the investment programme.