

Picketlaw WTW

21/03/2018

DWQR Staff Present

Colette Robertson-Kellie, Alison Seton

Scottish Water Staff Present

Tam Anderson, Alexsandra Janis, Hugh McAuley, Alison Fraser,
Jade Bree, Les Stirling, James Simmonette

Summary of Inspection

Overall Summary

At the time of the audit, the treatment works was producing high quality drinking water. The coagulation process, the DAF units, the rapid gravity filters and the disinfection system were operating well. Examination of water quality trends on SCADA showed low turbidity readings from the filters, with negligible impact from the filter backwash, and very low final water turbidity and aluminium levels. Chlorine residuals were stable and within target values.

Temporary polyacrylamide dosing was introduced to the site as a coagulant aid in November 2017, and staff reported that this has significantly improved the operation of the treatment works, and so this process shall become a permanent part of the treatment process. Polyacrylamide is also dosed to help settle backwash water prior to recirculating it to the head of the works. The condition of the temporary dosing equipment was poor and needs to be improved and Health and Safety procedures for handling polyelectrolyte powder were inadequate.

In general, the site had good housekeeping, but the area around the polyelectrolyte dosing plant in the sludge building would benefit from being cleaned. Staff levels were reported as having been low due to retirement and ill health, causing some routine tasks to be missed, but a member of staff has been transferred from another site and is currently being trained. Task scheduling forms were being filled in, and while there were gaps in some of the tasks that should have been completed, clear notes were made for the reasons behind this.

The calibration of on-line instrumentation was inadequate, and this needs to be addressed promptly. The coagulation pH monitor had triple validation, but one of the on-line monitors was not working properly and the process was operating with the remaining two monitors. The manual pH monitor was giving erratic readings and needs attention. The final water on-line pH monitor is unreliable and needs to be reset on a weekly basis against the bench instrument - this needs to be fixed or replaced.

The final water sample point was housed in a secure cabinet and was clearly labelled. However, the tap runs continuously, and the label states that it should be flushed for two minutes, so this should be clarified.

There is raw and final water Cryptosporidium sampling equipment at the site, which is well labelled and the paperwork appears in order. However, there was no spare final water Cryptosporidium filter on the site at the time of the audit - it is important that a spare filter is kept on site at all times in case of an emergency. There are two sample points for raw water Cryptosporidium sampling - it is recommended that if this is not needed, the redundant rig should be removed, in case of any confusion amongst sampling staff.

Orthophosphoric acid dosing is erratic, although the lead test rig data shows consistently low lead results.

The roof of Bairdsknowe Service Reservoir is in a poor condition, and it is recommended that its integrity is checked as a matter of urgency. Additionally, security around the site is clearly not adequate and should be addressed - vandals have gained access to the building, and Scottish Water staff were unsure if the tank hatches were alarmed.