

Drinking Water Quality Regulator for Scotland

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To:
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Chief Executive
Scottish Water
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5 August 2016

Dear Douglas

Information letter 01/2016

Reporting of final water *Cryptosporidium* detections to DWQR

1. Purpose

The purpose of this letter is to confirm DWQR's expectations for the reporting of *Cryptosporidium* oocysts detected in Scottish Water's final waters as part of the routine monitoring programme.

2. Background

Scottish Water has previously been requested to report all oocysts detected in Scottish Water's final waters via the event reporting process. With the use of ultra-violet radiation (UV) at water treatment works for the inactivation of *Cryptosporidium*, this approach is no longer appropriate in all circumstances. In situations where all operational parameters associated with the UV irradiation process are within design constraints, it may be assumed that any oocysts detected after this treatment stage are not viable.

3. Reporting of Final Water *Cryptosporidium* Oocyst Detections

Where Scottish Water is of the opinion that a *Cryptosporidium* oocyst detection is non-viable due to treatment with UV light, the detection need **not** be reported to DWQR via the event reporting process, unless the detection is in some way unusual.

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It is for Scottish Water to ensure that any UV process installed is appropriate to that situation and complies with previously issued DWQR guidance. Continued process monitoring is required to verify that any UV system is operating effectively.

Circumstances where the reporting of *Cryptosporidium* oocysts is still required include the following (the list is not exhaustive):

- Final waters where effective UV treatment is not present;
- Detections where effective, validated UV treatment is present but was not operating within the validated conditions (either due to operational issues or water quality factors);
- Detections where the UV process was operating correctly but the detection of oocysts is unexpected or unusual, for example where an upstream barrier process is present that should be preventing oocysts from reaching the final water;
- Detections where the number or morphology of detected oocysts is unusual for that supply.

4. Cryptosporidium Monitoring at Sites with UV treatment

Where UV treatment has been installed at a site specifically for the inactivation of *Cryptosporidium*, the monitoring frequencies specified in the guidance for the Public Water Supplies (Scotland) Regulations 2014 may be reviewed. Those sites that would otherwise be monitored at the highest frequency may be monitored at the intermediate frequency for the period that UV treatment is operating effectively. Should UV treatment become in some way compromised, the monitoring frequency shall revert to the higher level.

5. Site Specific Guidance

As of the date of this letter, Scottish Water has UV reactors at two treatment works installed for the purpose of *Cryptosporidium* inactivation. In order to further exemplify the requirements above, it may be helpful to consider each site specifically:

Storr Forest WTW, Skye

This site has 1µm cartridge filters upstream of the UV, which should be capable of removing the majority of oocysts. Consequently, any post-UV oocyst detection may be considered unusual and should be reported.

Tullich WTW, Oban

This site does not, in DWQR's opinion, have a robust barrier treatment process. Consequently, low-level final water oocyst detections (<2 oocysts per sample) are to be expected and need not be reported, provided the UV plant is operating normally and there are no other complicating factors. This in no way removes the expectation that Scottish Water will implement all possible catchment and treatment measures to minimise the *Cryptosporidium* load on the plant.

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Scottish Water should assess reporting requirements at any future UV plants using the same principles.

6. Issues arising from this Information Letter

Issues arising from this information letter should be directed, in the first instance, to Matt Bower (0131 244 0743). This letter has been sent electronically. A copy of this letter will be sent to the Water Industry Commission for Scotland, Health Protection Scotland, CPHMS and the Drinking Water Inspectorates of England and Wales and Northern Ireland.

Yours sincerely,



Sue Petch

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