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Rethinking Disinfection Policy

Challenge

Water companies in the UK are required to develop and implement a Disinfection Policy which lays down the high-level strategy for achieving “an adequate treatment”, in line with the requirements of Regulation 26. Water companies must be able to demonstrate that the treatment is designed for the microbiological challenge present in the raw water, and that it is operated within validated criteria. The Drinking Water Inspectorate has taken a flexible approach in allowing water companies to develop the structure and contents of their own disinfection policies, with the caveat that the policies need to be informed by “sound science”.

What is clear however is that defining and interpreting what this means as well as developing a Disinfection Policy that applies best practice, is challenging and requires substantial knowledge of up-to-date scientific advances.

Solution

WRC can support the development or revision of water company disinfection policies. We can perform gap/optimisation analysis, comparing water companies’ existing disinfection policies with good practice elements drawn from international jurisdictions with well-established drinking water safety and disinfection practice. This fulfils the requirement for establishing disinfection policies based on sound science within a robust, risk-based framework. We can support the revision or rewrite process, as well as benchmarking existing treatment works against elements of good Disinfection Policy



practice. WRC has successfully delivered this solution to a number of water companies and is in consultation with several others, as well as the Drinking Water Inspectorate (DWI) to define optimum approaches. WRC also facilitate a “Disinfection Forum” working group where innovative ideas and best practice can be discussed.

Benefits

The benefits of adopting this approach include:

- Alignment of the disinfection policy with international best practice;
- Improved reputational standing;
- Enhanced understanding of necessary disinfection protocols and disinfection activities;
- An accessible approach for managers and operators of a range of different water sources and treatment processes;
- Reduction in customer and corporate risk;
- Demonstration of due diligence to the water quality regulator (DWI) with an evidence supported approach for ensuring the microbiological safety of drinking water.



2018-2019 – Thames Water Disinfection Policy support

Client Need: Thames Water wanted to apply best practice in managing the microbiological safety of drinking water and demonstrate due diligence to the regulator and their customers.

Solution Delivered: WRc developed a disinfection policy standard and associated rationale, which were based on consistent good practice drawn from guidance available from countries that have adopted health-based targets for defining the microbiological safety of drinking water.

Client Benefits: Thames Water is now able to demonstrate due diligence to the regulator, and manage their water treatment works and the microbiological safety of drinking water against quantifiable health-based targets, in line with the guidance by the WHO.

2016 – Southern Water Disinfection Policy support

Client Need: Southern Water wanted to make further improvements to their Disinfection Policy.

Solution Delivered: WRc reviewed their policy and proposed an approach based on demonstrating compliance with a health-based target. Guidance was provided on the fundamentals of a risk assessment approach, based on the best available current knowledge of pathogen occurrence and default pathogen elimination credits. This work was supported by a review of all of their surface water treatment works for compliance with the recommendations of the Badenoch and Bouchier expert groups for managing the risks from *Cryptosporidium*. A number of areas for improvement were identified in water treatment practice.

Client Benefits: Southern Water was able to demonstrate due diligence to the regulator and provide reassurance to its customers over the safety and quality of their water supplies.

2010 to Ongoing – Disinfection Forum (Consortium of water companies)

Client Need: Water companies view it as a benefit to share good disinfection practice.

Solution Delivered: WRc brings together and facilitates a number of water companies to examine and review topics aimed at improving operational practice. The work has led to the development of a toolbox for assessing the effectiveness of chlorination and is regularly applied by water companies to check treatment performance.

Client Benefits: Water companies derive reassurance over the microbiological safety of their operations.