Risk Management for Water and Wastewater Utilities

This book has a new edition. Click here for more information[1].

The provision of safe drinking water and the protection of public health and the environment through the treatment of wastewaters is increasingly informed by risk-based decision-making. Aspects of utility management such as process design and optimisation, asset management and compliance monitoring rely on a mature understanding of process risk within a broader context of business and environmental risk management.

For operators, risk management is now regarded as a key business function. Understanding risk and being able to implement risk management is critical to the provision of safe drinking water. As part of a move towards a more strategic, forward looking approach to utility management, the IWA is promoting a risk-based approach to water utility management, from catchment to tap, through the implementation of the Bonn Charter (2004).

- Why manage risk?
- Basic probability and statistics
- Process risk and reliability analysis
- Assessing risks beyond the unit process boundary
- Regulating water utility risks
- Business risk management for water and wastewater utilities
- Managing opportunity and reputational risk
- Embedding better decision-making within utilities

Having provided rationale for the importance of risk management, the text begins with the familiar territory of unit processes and process reliability. It then broadens out to consider, first environmental then organisational risk management. The final sections are concerned with better utility decision-making.

The book has been designed for individual self-paced study. Each section of the text gives step-by-step learning in a particular subject, that includes an approximation of how long you will need to spend on that section and provides key points that highlight the principles of the different sections. Each unit includes exercises to help understand the material in the text as well as self-assessment questions to test your understanding and text references.