

Course Title: Managing Water Quality in Distribution Systems

Contact Hours: 7

CEU Value: 0.7

Course Description:

An understanding of drinking water quality issues in distribution and storage systems will be developed within the context of a source to tap approach. Drinking water treatment basics will be discussed with an emphasis on unintended consequences which may lead to quality problems that can develop within the distribution system. Common microbiological and chemical/physical problems that arise in distribution systems will be discussed with respect to causes and significance. Measures to detect, prevent and mitigate such problems will be detailed. Information will be provided on how to identify and manage risks specific to distribution systems. Customer complaints and inquiries will be addressed from the perspectives of their usefulness in identifying the development of quality deterioration and the need to address them appropriately in order to maintain confidence and satisfaction.

Participants will gain an understanding of problems that arise in distribution systems and the need for effective co-operation between water treatment and distribution operators in order to meet regulatory requirements and drinking water quality objectives.

Areas of study include:

- Review of Safe Drinking Water Principles
- Drinking Water Treatment Considerations
- Basic Principles of Maintaining Distribution System Water Quality
- Microbiological Quality Problems in Distribution and Storage
 - Regrowth of Bacteria
 - Intrusion of Pathogens
 - Nitrification
- Chemical and Physical Problems in Distribution and Storage
 - Internal Corrosion
 - Loss of Secondary Disinfectant Residual
 - Disinfection By-Product Formation
 - Deposits and Particles
 - Tastes and Odours
- Risk Assessment and Management
- Customer Inquiries and Complaints

Target Audience:

This course will be of particular interest to distribution system operators, and managers, with a role in regulatory compliance and maintaining water quality within storage and distribution systems. Due to interdependencies between treatment practices and final water quality at the tap, treatment operators will also benefit from this course.