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Activities relating to drinking water and wastewater services — Crisis management of water utilities

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National foreword

This British Standard is the UK implementation of ISO 24518:2015.

The UK participation in its preparation was entrusted to Technical Committee CB/503, Drinking water and wastewater service levels.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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INTERNATIONAL STANDARD

ISO 24518

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Activities relating to drinking water and wastewater services — Crisis management of water utilities

Activités relatives aux services de l'eau potable et de l'assainissement — Gestion de crise des services publics de l'eau

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 224, *Service activities relating to drinking water supply systems and wastewater systems — Quality criteria of the service and performance indicators*.

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Introduction

Water is the source of life, without which humans, as well as other species, cannot survive. In many countries, there is a lack of knowledge regarding the crisis management of drinking water and wastewater services.

Impairment of the drinking water service would change the quality of life of the affected population in the immediate period while in the medium-term period it could affect their ability to survive; therefore, the continuous and orderly supply of drinking water is of paramount importance for the population. On the other hand, the collection and safe disposal of sanitary wastewater and drainage storm-water is also important if epidemics and general poisoning by contamination as well as urban inundation are to be prevented and in order to protect the environment.

This guideline describes the fundamentals of a crisis management system, including relevant recommendations for water utilities.

This guideline deals with situations where the normal supply of potable water or collection and treatment of wastewater are interrupted because of a crisis situation. It enumerates steps that should be taken in preparing the organization for a crisis situation (pre-crisis phase). It then provides general International Standards as to how a crisis should be dealt with (the crisis phase). Guidelines on re-establishing services (post-crisis phase) and on drawing conclusions and revising procedures for future events follow.

This guideline follows the Plan-Do-Check-Act (PDCA) approach to crisis management. This is a continuous process of ascertaining whether any organization has at its disposal the means for responding successfully to any crisis.

The approach of an organization when preparing for any crisis should encompass all pertinent aspects of water supply and the collection and treatment of wastewater. The organization needs to cooperate with all relevant authorities concerned with the crisis. Efficient crisis management should ensure that the actions taken before, during, and after the crisis should consider the natural environment as well as the impact on the health and wellbeing of the population. Effective communications with the public are necessary to mitigate or prevent panic and to establish trust in the organization by disclosing important information appropriately in the area affected by a crisis or in neighbouring areas.

This International Standard is complemented with an International Standard named *"Activities relating to drinking water and wastewater services — Crisis management of water utilities — Good practice for technical aspects"* to be published.

The objective of this International Standard is not to lay down systems or specifications supporting direct certification of conformity, but to provide International Standards for crisis management in water utilities. The use of this International Standard is voluntary in accordance with rules.

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INTERNATIONAL STANDARD ISO 24518:2015(E)

Activities relating to drinking water and wastewater services — Crisis management of water utilities

1 Scope

This International Standard provides general guidance to water utilities to develop and implement a crisis management system.

This International Standard may be applicable to all sizes of public or private water utilities that want to prepare, respond, and recover from a crisis.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 24510, *Activities relating to drinking water and wastewater services — Guidelines for the assessment and for the improvement of the service to users*

ISO 24511, *Activities relating to drinking water and wastewater services — Guidelines for the management of wastewater utilities and for the assessment of wastewater services*

ISO 24512, *Activities relating to drinking water and wastewater services — Guidelines for the management of drinking water utilities and for the assessment of drinking water services*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 24510, ISO 24511, ISO 24512 and the following apply.

NOTE Where there are conflicting terms and definitions, the terms and definitions given in this International Standard should be used.

3.1 Terms relating to "plan"

3.1.1
organization
person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its *objectives* (3.1.6)

Note 1 to entry: The concept of organization includes, but is not limited to sole-trader, company, corporation, firm, enterprise, authority, partnership, charity or institution, or part or combination thereof, whether incorporated or not, public or private.

Note 2 to entry: For the purposes of this International Standard the organization will usually be a water utility.

3.1.2
interested party
stakeholder
person or *organization* (3.1.1) that can affect, be affected by, or perceive themselves to be affected by a decision or activity

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3.1.3
requirement
need or expectation that is stated, generally implied or obligatory

Note 1 to entry: "Generally implied" means that it is custom or common practice for the organization and interested parties that the need or expectation under consideration is implied.

3.1.4
top management
person or group of people who directs and controls an *organization* (3.1.1) at the highest level

Note 1 to entry: Top management has the power to delegate authority and provide resources within the organization.

Note 2 to entry: If the scope of the *management system* (3.2.1) covers only part of an organization then top management refers to those who direct and control that part of the organization.

Note 3 to entry: A specified requirement is one that is stated, for example in documented information.

3.1.5
policy
intentions and direction of an *organization* (3.1.1) as formally expressed by its *top management* (3.1.4)

3.1.6
objective
result to be achieved

Note 1 to entry: An objective can be strategic, tactical, or operational.

Note 2 to entry: Objectives can relate to different disciplines (such as financial, health and safety, and environmental goals) and can apply at different levels [such as strategic, organization-wide, project, product and *process* (3.2.4)].

Note 3 to entry: An objective can be expressed in other ways, e.g. as an intended outcome, a purpose, an operational criterion, as a *crisis* (3.1.8) objective or by the use of other words with similar meaning (e.g. aim, goal, or target).

Note 4 to entry: In the context of **crisis** management systems *crisis* (3.1.8) objectives are set by the organization, consistent with the crisis management policy, to achieve specific results.

3.1.7
risk
effect of uncertainty

Note 1 to entry: An effect is a deviation from the expected — positive or negative.

Note 2 to entry: Uncertainty is the state, even partial, of deficiency of information related to understanding or knowledge of an event, its consequence, or likelihood.

Note 3 to entry: Risk is often characterized by reference to potential **events** (ISO Guide 73, 3.5.1.3) and **consequences** (ISO Guide 73, 3.6.1.3), or a combination of these.

Note 4 to entry: Risk is often expressed in terms of a combination of the consequences of an event (including changes in circumstances) and the associated **likelihood** (ISO Guide 73, 3.6.1.1) of occurrence.

3.1.8
crisis
event or situation which affects or is likely to affect the organization or its provided services which requires more than the usual means of operation and/or organizational structures to deal with it

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3.2 Terms relating to "do"

3.2.1
management system
set of interrelated or interacting elements of an *organization* (3.1.1) to establish *policies* (3.1.5) and *objectives* (3.1.6) and *processes* (3.2.4) to achieve those objectives

Note 1 to entry: A management system can address a single discipline or several disciplines.

Note 2 to entry: The system elements include the organization's structure, roles and responsibilities, planning, operation, etc.

Note 3 to entry: The scope of a management system may include the whole of the organization, specific and identified functions of the organization, specific and identified sections of the organization, or one or more functions across a group of organizations.

3.2.2
competence
ability to apply knowledge and skills to achieve intended results

3.2.3
documented information
information required to be controlled and maintained by an *organization* (3.1.1) and the medium on which it is contained

Note 1 to entry: Documented information can be in any format and media and from any source.

Note 2 to entry: Documented information can refer to

— the *management system* (3.2.1), including related *processes* (3.2.4);

— information created in order for the organization to operate (documentation);

— evidence of results achieved (records).

3.2.4
process
set of interrelated or interacting activities which transforms inputs into outputs

3.2.5
performance
measurable result

Note 1 to entry: Performance can relate either to quantitative or qualitative findings.

Note 2 to entry: Performance can relate to the management of activities, *processes* (3.2.4), products (including services), systems or *organizations* (3.1.1).

3.2.6
outsource
verb
make an arrangement where an external *organization* (3.1.1) performs part of an organization's function or *process* (3.2.4)

Note 1 to entry: An external organization is outside the scope of the *management system* (3.2.1), although the outsourced function or process is within the scope.

3.2.7
alternative water supplies
AWS
water provided to customers by means other than through the normal treatment and distribution system

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