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Service activities relating to drinking water supply, wastewater and stormwater systems — Guidelines on alternative drinking water service provision during a crisis

Activités de service relatives aux systèmes d'alimentation en eau potable, aux systèmes d'assainissement et aux systèmes de gestion des eaux pluviales — Lignes directrices relatives à l'approvisionnement alternatif en eau potable en cas de crise

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

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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 of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 224, *Service activities relating to drinking water supply, wastewater and stormwater systems.*

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Drinking water is fundamental to life and its distribution is considered to be an essential service. Drinking water supply relies on systems that can be subject to disruption from internal or external factors including operational error, lack of rehabilitation, damage to the drinking water system, malicious acts (e.g. vandalism, criminality or terrorism) and natural disasters (e.g. earthquakes, floods, hurricanes or volcanic eruptions).

This document is intended for drinking water utilities that normally provide a service without interruption through a drinking water distribution network. It provides guidelines for the effective implementation of alternative drinking water service (ADWS) provision during extended periods of disruption to drinking water supply.

In many cases, operational and organizational processes will exist within drinking water utilities to deal with short periods of localized interruption to drinking water distribution. However, if the service interruption exceeds the duration or extent of anticipated events, an interruption can escalate into a crisis at local, regional or, exceptionally, national levels.

NOTE 1 For adequacy and consistency, guidance in this document typically assumes an operational response at a crisis level. However, the guidelines are applicable for all levels of operational incidents requiring ADWS deployment including normal business continuity preparedness and response.

NOTE 2 For guidance on the management of crises see ISO 24518 and ISO/TS 24520.

A significant water interruption (arising from quantity and/or quality issues) can impact public and personal health and wellbeing, and economic performance. A prolonged interruption can progressively threaten the coherence of the community served.

The roles of relevant authorities, responsible bodies, drinking water utilities and operators can differ between and within countries and result in different minimum requirements for ADWS provision. Nevertheless, it is generally recommended that such organizations recognize the importance of uninterrupted drinking water distribution, even at times of crisis for the drinking water utility, for the wellbeing of the community served.

Drinking water utilities are encouraged to reduce the risk of water supply interruption. This is typically achieved by a combination of good planning, design, procurement, installation, operation and maintenance of the drinking water assets. Such measures should include the provision of an ADWS for users during a crisis.

It is also recommended that the drinking water utility's capability to provide an ADWS will be consistent with the maximum likely service interruption (extent and duration) identified through risk assessment. The provision of an ADWS necessitates thorough preparation (e.g. to address planning, procurement, logistics, control and communication), as well as awareness of the need and commitment at all levels of the organization to be effective and efficient.

ADWS during a crisis can be provided using one of the two following principles, or both in combination:

a) using the drinking water distribution network in a non-conventional manner;

b) not using the drinking water distribution network.

This document describes the principal issues to be considered when:

1) planning for and deploying ADWS provision;

2) anticipating and addressing stakeholders' ADWS needs and communicating with stakeholders on ADWS deployment.

ADWS planning and provision can include guidelines by responsible bodies on monitoring and control methods. This document covers water quality issues only to the extent that they relate to drinking water provided via an ADWS.

Service activities relating to drinking water supply, wastewater and stormwater systems — Guidelines on alternative drinking water service provision during a crisis

1 Scope

This document provides guidelines on alternative drinking water service (ADWS) provision during a crisis.

This document addresses:

a) ADWS principles and methods;

b) ADWS operational planning and implementation.

This document is not applicable to:

1) planned water supply interruptions forming part of drinking water utilities' normal operations;

NOTE However, many of the principles and methods described can be appropriate in such circumstances.

2) drinking water supplied for the ongoing operation of key establishments and facilities during a crisis, such as hospitals, homes for the aged, schools, reception facilities and vital plants;

3) water supplied for industrial, agricultural or commercial purposes;

4) water supplied to temporary settlements such as refugee camps;

5) the development and implementation of a crisis management system for water service, which is covered by ISO 24518 and ISO/TS 24520.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 24513, *Service activities relating to drinking water supply, wastewater and stormwater systems — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 24513 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/