International Standard

ISO 20760-2

Second edition
2025-11

Water reuse in urban areas — Guidelines for centralized water reuse system —

Part 2: Management of a centralized water reuse system

Réutilisation de l'eau en milieu urbain — Lignes directrices concernant les systèmes centralisés de réutilisation de l'eau —

Partie 2: Gestion d'un système centralisé de réutilisation de l'eau

Reference number
ISO 20760-2:2025(en)

© ISO 2025



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025
All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

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

Published in Switzerland

Contents

Page

Foreword ... **iv**
Introduction ... **v**
1 Scope ... **1**
2 Normative references ... **1**
3 Terms and definitions ... **1**
4 Overview of management issues of a centralized water reuse system ... **2**
4.1 General ... 2
4.2 Water demand ... 3
4.3 System components ... 3
4.4 Possible models of the reclaimed water system and end-use needs ... 3
5 Principles and methodology of reclaimed water management ... **4**
5.1 Principles ... 4
5.2 Risk management ... 4
6 Management of source water ... **4**
7 Management of reclaimed water treatment systems ... **4**
8 Management of reclaimed water storage systems ... **5**
9 Management of reclaimed water distribution systems ... **5**
9.1 General ... 5
9.2 Delivery pressure and flow rate of reclaimed water ... 6
9.3 Water quality in distribution systems ... 6
9.4 Colour-coding, water signs and labels ... 6
9.5 Backflow and cross-connection control ... 6
9.6 System leakage and corrosion control ... 7
9.7 Service connections ... 7
10 Water quality monitoring ... **7**
10.1 General ... 7
10.2 Baseline monitoring ... 7
10.3 Validation monitoring ... 8
10.4 Operational monitoring ... 8
10.5 Verification monitoring ... 8
11 Management of incidents and emergencies ... **9**
12 Supporting recommendations ... **9**
13 Review ... **9**
Bibliography ... **10**

© ISO 2025 – All rights reserved

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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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 282, *Water reuse*, Subcommittee SC 2, *Water reuse in urban areas*.

This second edition cancels and replaces the first edition (ISO 20760-2:2017), which has been technically revised.

The main changes are as follows:

— updated example regarding water reuse management initiatives in the European Union;

— updated information on the typical disinfection techniques;

— added information on the key performance indicators for typical treatment processes;

— added information regarding online data management.

A list of all parts in the ISO 20760 series can be found on the ISO website.

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.

© ISO 2025 – All rights reserved

Introduction

With economic development, climate change and increases in population and rapid urbanization, water has become a strategic resource especially in arid and semi-arid regions. Water shortages are considered as one of the most serious threats to sustainable development of society. To address these shortages, reclaimed water is increasingly being used to satisfy water demands and this strategy has proven useful in increasing the reliability of long-term water supplies in many water-scarce areas.

The role of water reuse is growing for urban areas in many countries including landscape irrigation, industrial uses, toilet and urinal flushing, firefighting and fire suppression, street cleaning, environmental and recreational uses (ornamental water features, water bodies' replenishment, etc.) and vehicle washing. These centralized water reuse systems have been developed to the degree that they are now considered as an effective component of urban water management and are used in many cities and countries.

The essential components of a centralized water reuse system include wastewater collection systems (sewers and pumping stations), water source, a reclaimed water treatment system, reclaimed water storage, a reclaimed water distribution system, and a water quality monitoring system. The management concepts and principles are suggested to be implemented throughout the whole system, from the source water to the end users. Each component should be characterized and managed with appropriate strategies.

This document provides management concepts and principles for centralized water reuse systems in urban areas. It considers and addresses the critical issues or factors during management, which will facilitate water authorities and reclaimed water providers or practitioners, or both, to conduct cost-effective approaches for safe and reliable fit-for-purpose water reuse. For details on the design of a centralized water reuse system, see ISO 20760-1. Additionally, for details on the design and management of decentralized or onsite water reuse systems in urban areas, see ISO 23056.

© ISO 2025 – All rights reserved

Water reuse in urban areas — Guidelines for centralized water reuse system —

Part 2:
Management of a centralized water reuse system

1 Scope

This document provides guidelines for the management of centralized water reuse systems and water reuse applications in urban areas.

This document addresses centralized water reuse systems in their entirety and is applicable to any water reclamation system component (e.g. source water, treatment, storage, distribution, operation and maintenance and monitoring).

This document provides:

— principles and methodology of reclaimed water management;

— management issues in each system component of a centralized water reuse system;

— water quality monitoring;

— specific aspects for consideration and emergency response.

This document excludes monitoring parameters and regulatory values (e.g. water quality limits) of a centralized water reuse system.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitute 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 20670, *Water reuse — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 20670 apply.

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

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

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

© ISO 2025 – All rights reserved