



BSI Standards Publication

Service activities relating to drinking water supply systems and wastewater systems — Guidelines for benchmarking of water utilities

National foreword

This British Standard is the UK implementation of ISO 24523:2017.

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.

© The British Standards Institution 2017.
Published by BSI Standards Limited 2017

ISBN 978 0 580 89179 3

ICS 03.080.30; 13.060.20; 13.060.30

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 March 2017.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

Service activities relating to drinking water supply systems and wastewater systems — Guidelines for benchmarking of water utilities

*Activités de service relatives aux systèmes d'alimentation en eau
potable et aux systèmes d'assainissement — Lignes directrices pour le
benchmarking des services publics de l'eau*





COPYRIGHT PROTECTED DOCUMENT

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, 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
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Benchmarking — Objectives, work steps and characteristics	4
4.1 Objectives	4
4.2 Performance assessment and performance improvement	4
4.3 Benchmarking work steps	5
4.4 Requirements on performance indicator systems for drinking water and wastewater services	8
4.5 Benchmarking at different levels of detail	10
5 Notes and recommendations for benchmarking projects	12
5.1 General	12
5.2 Comparability of benchmarking objects	12
5.3 Notes for project organization, project management and data management	12
5.3.1 Project organization	12
5.3.2 Project management of the overall project	12
5.3.3 Data management	13
5.4 Requirements on the personnel involved	13
6 Results and their application	13
6.1 Principle of confidentiality	13
6.2 Use and presentation of results in public	13
6.3 Notes for the interpretation of results	14
7 Project costs	14
Annex A (informative) Checklist for clarification of the principles of cooperation and confidentiality in the treatment of data, information and project results in benchmarking projects	15
Annex B (informative) Examples for voluntary and industry based benchmarking projects	16
Bibliography	17

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 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 224, *Service activities relating to drinking water supply systems and wastewater systems — Quality criteria of the service and performance indicators*.

Introduction

Benchmarking is a systematic process for the identification, familiarization and adoption of successful practices from benchmarking partners. Typically, it is a continual or recurrent process. The primary aim of benchmarking is the performance improvement of benchmarking partners.

Benchmarking provides a means of improving technical and economic processes. The principal objectives of benchmarking in the water sector are performance improvements with particular emphasis on reliability, quality, customer service, sustainability, and economic efficiency. It provides those responsible in individual benchmarking partners with evidence to compare their processes with the most efficient equivalents among the wider group of benchmarking partners. Conclusions can then be drawn on opportunities or need for performance improvement.

Potential consequential objectives can include communication with stakeholders. Relevant results of a benchmarking project can also be used to address the information needs of stakeholders, such as politicians, the public and supervisory/regulatory bodies. Care is to be taken to ensure that all relevant contextual information and influencing factors are comprehensively described to avoid inaccurate or misleading conclusions being drawn. Benchmarking might thus also support the outward transparency of the performance of services. However, it is intended to be remembered that the ultimate aim of benchmarking is to ensure that the overall operations of the service are as effective, efficient and economical as possible.

Successful benchmarking needs the commitment and conviction of the benchmarking partners' management. Management know-how is needed when interpreting and analysing the results of performance assessment and in drawing conclusions. Additionally, benchmarking is a process which can generate confidential data relating to individual benchmarking partners. Thus, the goodwill of benchmarking partners, the agreement of a code of conduct and trust in the entity that organizes the benchmarking are prerequisites for successful benchmarking. Participation in benchmarking is therefore often voluntary. However, participation can be a requirement, for example, from a regulatory authority.

This document summarizes generally accepted criteria for successful benchmarking of drinking water and wastewater services and can be applied at all levels of detail and for any specific improvement objectives. These have been derived from common experiences where benchmarking has been applied as a two-step process; firstly for performance assessment and secondly for performance improvement (see list of examples of benchmarking projects in [Annex B](#)).

This document's content represents an open, shared and international approach by the water industry to the derivation of benchmarking good practice in the water sector. It builds on earlier work published jointly by the IWA[4], Reference [5], AWWA and IWA[6] and DVGW and DWA[7]. The benchmarking process can be used by any type of drinking water/wastewater service provider, including small and medium enterprises. The approach in this document does not prefer any specific national, regulatory, commercial or professional association's benchmarking method. The approach described reflects good practice when taken as a whole.

ISO 24510, ISO 24511 and ISO 24512 provide guidelines for the assessment and for the improvement of the service to users and the management of the water utilities but do not present detailed assessment and improvement procedures. This document gives guidance on benchmarking which is a widely used procedure, combining the performance assessment with steps of performance improvement. As such, it complements ISO 24510, ISO 24511 and ISO 24512.

Service activities relating to drinking water supply systems and wastewater systems — Guidelines for benchmarking of water utilities

1 Scope

This document provides guidelines on good benchmarking practice of drinking water and wastewater utilities. It describes the basic framework and methods associated with benchmarking in the water sector. The guidelines are intended primarily for voluntary benchmarking. Specific objectives set forth by the authorities and which are to be achieved by the water utility are not covered by this document.

This document is applicable to water utilities of any size managed by a public or private entity. It does not favour any particular ownership or operating model.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

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

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

aggregated performance indicator

performance indicator (3.13) at superior level, which represents one or more levels of detail

Note 1 to entry: A highly aggregated performance indicator gathers information at utility level with a low level of detail (e.g. operating costs of water supply per cubic metre of water delivered). Lower levels of aggregation require more detailed performance indicators (e.g. time commitment per metre of sewer cleaning). This applies also synonymously to *data variables* (3.8).

Note 2 to entry: A synonymous term is “aggregation level”. In this context, aggregation level means the consolidated status of a performance indicator or a data variable relating to the information about the *benchmarking object* (3.4).

3.2

benchmark

single value representing an accepted reference value derived either from comparisons among participants or from literature, used for orientation

Note 1 to entry: The benchmark may be determined collaboratively or individually.

Note 2 to entry: By *clustering* (3.6), different benchmarks can occur for different peer groups.