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Introduction

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



DRAFT International Standard

ISO/DIS 20468-10

Performance evaluation of treatment technologies for water reuse systems —

Part 10: Guidelines for evaluation of dependability of treatment systems

ICS: 13.060.01; 13.020.40

ISO/TC 282/SC 3

Secretariat: JISC

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2025-02-20

This document is circulated as received from the committee secretariat.

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Contents		Page
Foreword.....		iv
Introduction.....		v
1	Scope.....	1
2	Normative references.....	1
3	Terms, definitions, and list of abbreviated terms.....	1
3.1	Terms and definitions.....	1
3.2	List of abbreviated terms.....	3
4	Concept of dependability evaluation of treatment systems.....	3
4.1	Dependability evaluation by availability.....	3
4.2	Treatment system and critical unit processes as performance control points (PCPs).....	3
5	Evaluation procedure for dependability of treatment systems.....	4
5.1	General.....	4
5.2	Qualitative assessment of availability.....	5
5.3	Quantitative assessment of availability.....	6
Annex A (informative) Examples of maintenance strategy as benchmark for qualitatively assessing availability applied to key technologies.....		8
Annex B (informative) Example of quantitative assessment of availability.....		12
Bibliography.....		13

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).

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This document was prepared by Technical Committee ISO/TC 282, Water reuse, Subcommittee SC 3, Risk and performance evaluation of water reuse 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

The purpose of this document is to define a methodology for evaluating the dependability of treatment systems, for “non-functional requirements” from ISO 20468-1:2018, Guidelines for performance evaluation of treatment technologies for water reuse systems, Part 1 General. The term dependability is defined in IEC guidelines, as a collective term used to describe availability performance and its influencing factors. The factors are explained to include reliability as the ability to prevent a failure and maintainability as the ability to recover from a failure.

Failure is also defined as a state in which a treatment technology does not meet a functional or a non-functional requirement for the dependability evaluation of a treatment system. Although the targeted performance requirement can be selected depending on the purpose, “functional requirements” related to water quality should be targeted with high priority in conventional water reuse projects.

As a consequence, the dependability of a treatment system can be represented and evaluated by availability as the ability to perform long-term operation without a failure and fulfilment of “functional requirements” related to the water quality target to be complied with. As well, dependability as a “non-functional requirement” can be evaluated by benchmarking for making comparisons or improving treatment system performance. This document provides a customized methodology for evaluating the dependability of treatment systems in water reuse projects.

Performance indicators other than dependability for the “non-functional requirements” of treatment systems have already been specified in ISO 20468-2 for environmental performance based on GHG emissions and in ISO 20468-8 for economic evaluations based on life cycle cost (LCC). If “functional requirements” related to water quality performance are satisfied, dependability can provide appropriate information on operation and maintenance used for calculating GHG emissions and LCC.

A comprehensive evaluation of dependability, environmental, and economic performance, can be used to select an appropriate and cost-effective treatment system in the planning phase and to identify improvement for operations and optimization opportunities on a life cycle basis. A variety of stakeholders, including managers of water reuse projects, and owners of water infrastructure and facilities, can find beneficial options by a comprehensive performance evaluation using the ISO 20468 series guidelines.