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

Activités de service relatives aux systèmes d'alimentation en eau potable, aux systèmes d'assainissement et aux systèmes de gestion des eaux pluviales — Vocabulaire

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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

0.1 A common vocabulary for ISO/TC 224 documents

The first three documents within the family of ISO/TC 224 documents provide topic-specific overviews of water service provision.

— ISO 24510 addresses water services in general and is service oriented.

— ISO 24511 and ISO 24512 address wastewater and water service provision, respectively, and are management oriented.

The family of ISO/TC 224 documents comprises both management system standards (requirements) and service standards (guidelines). They focus on assessing and improving the service to users and on managing water utilities. The ISO/TC 224 family of documents recognizes relevant authorities' primacy in setting overarching goals while encouraging their framing in the context of the UN's Sustainable Development Agenda[32] and Goals[33].

This document is intended to:

— help stakeholders understand the fundamental concepts and vocabulary of water services provision, in order to effectively and efficiently influence such provision, and realize value from use of the ISO/TC 224 family of documents;

— facilitate dialogue between the stakeholders, enabling their mutual understanding of the functions and tasks that fall within the scope of water utilities.

This document contains a vocabulary of management concepts for water services provision. It is applicable to all such organizations, regardless of size, complexity or business model. This document aims to increase a water utility's awareness of its duties and commitments in fulfilling the needs and expectations of its users and other stakeholders, and the likelihood of it achieving their satisfaction with its products and services. As such it will help any water utility realize its objectives.

Clause 3 contains terms and definitions for concepts used throughout the ISO/TC 224 family of documents. Where the context of an individual standard requires departure from a term's definition the departure is explained in a specific “Note to entry”. In accordance with ISO 704:2009, the terms and definitions are arranged in conceptual order. Annex A contains a table listing the terms in alphabetical order, cross referenced to the relevant subclause for each term. Annex B contains a set of figures explaining the principles of concept relationships and their graphical representation, and the relationships underpinning the concept ordering used in this document. Annex C contains guidance on the inclusion of terminological entries from this document in specific documents within the ISO/TC 224 family of documents.

NOTE 1 The ISO/TMB/JTCG Joint Technical Coordination Group on Management System Standards (MSS) has determined that all MSS should be developed to a common high level structure (HLS). This includes identical subclause titles, identical text and common terms and core definitions. See ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2. To aid those drafting new or revised MSS in the ISO/TC 224 family of documents, such terms and core definitions are clearly identified in this vocabulary standard. Although service standards are not subject to the same constraints, ISO/TC 224 has chosen to adopt these common terms and core definitions unless the context indicates an alternative source is more suitable.

NOTE 2 Guidance on draft concepts arising from further developments in the ISO/TC 224 family of documents – and not yet contained in this document – can be obtained from the ISO/TC 224 Secretary.

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

1 Scope

This document defines individual concepts that together constitute a vocabulary common to different stakeholders with interests in water service provision. It is intended to facilitate common understanding and communication on the provision and management of service activities relating to drinking water supply, wastewater and stormwater systems.

The following are within the scope of this document:

— definition of a vocabulary common to the different stakeholders;

— definition of key elements and characteristics of the service to users;

— definition of the components of drinking water supply, wastewater and stormwater systems.

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

For the purposes of this document, the following terms and definitions 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/

3.1 Concepts related to organization

3.1.1
organization
person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its *objectives* (3.1.5)

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 document the organization will usually be a *water utility* (3.3.1).

Note 3 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

Note 4 to entry: For ISO/TS 24522, amend Note 2 to entry to read "For the purposes of this document the organization responsible for *event detection* (3.3.20) will usually be part of a wider organization [the *water utility* (3.3.1) responsible for the provision of *drinking water* (3.2.2.1)/*wastewater* (3.2.2.2) *services* (3.3.7)]."

[SOURCE: ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2, 3.1, modified — Notes 2–4 to entry added.]

3.1.2
management
coordinated activities to direct and control a *water utility* (3.3.1)

Note 1 to entry: Management can include establishing *policies* (3.1.4) and *objectives* (3.1.5), and *processes* (3.7.1) to achieve these objectives.

Note 2 to entry: The word "management" sometimes refers to people, i.e. a person or group of people with authority and responsibility for the conduct and control of a *service* (3.3.7). When "management" is used in this sense, it should always be used with some form of qualifier to avoid confusion with the concept "management" as a set of activities defined above. For example, "management should …" is deprecated whereas "crisis management team should …" is acceptable. Otherwise different words should be adopted to convey the concept when related to people, for example managerial or managers.

Note 3 to entry: The term "management" can be qualified by a specific domain it addresses. Examples include public health management, environmental management and *risk* (3.1.6) management.

[SOURCE: ISO 9000:2015, 3.3.3, modified — "a water utility" substituted for "an organization" in the definition; "a service" substituted for "an organization" in Note 2 to entry; Note 3 to entry added.]

3.1.3
management system
set of interrelated or interacting elements of an *organization* (3.1.1) to establish *policies* (3.1.4) and *objectives* (3.1.5), and *processes* (3.7.1) to achieve those objectives

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

Note 2 to entry: The management system elements establish the organization's structure, roles and responsibilities, planning, *operation* (3.5.10), policies, practices, rules, beliefs, objectives and processes to achieve those objectives.

Note 3 to entry: The scope of a management system can 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.

Note 4 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO 9000: 2015, 3.5.3, modified — Note 4 to entry omitted; new Note 4 to entry added.]

3.1.4
policy
intentions and direction of an *organization* (3.1.1) as formally expressed by its *top management* (3.1.7)

Note 1 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2, 3.7, modified — Note 1 to entry added.]

3.1.5
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* (3.7.1)].

Note 3 to entry: An objective can be expressed in other ways, e.g. as an intended outcome, a purpose, an operational criterion, as an XXX 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 XXX *management systems* (3.1.3), XXX objectives are set by the *organization* (3.1.1), consistent with the XXX *policy* (3.1.4), to achieve specific results.

Note 5 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

Note 6 to entry: XXX = an MSS discipline-specific qualifier (e.g. IT security, environmental, quality, water efficiency) that needs to be inserted.

[SOURCE: ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2, 3.8, modified — Notes 5 and 6 to entry added.]

3.1.6
risk
combination of the likelihood of a *hazardous event* (3.3.40.1) and the severity of *consequences* (3.3.57), if the *hazard* (3.3.39) occurs in the *drinking water system* (3.5.12.2), *wastewater system* (3.5.12.3) or *stormwater system* (3.5.12.5)

Note 1 to entry: Risk is often characterized by reference to potential *events* (3.3.22) and consequences or a combination of these.

Note 2 to entry: The English term "likelihood" does not have a direct equivalent in some languages; instead, the equivalent of the term "probability" is often used. However, in English, "probability" is often narrowly interpreted as a mathematical term. Therefore, in risk management terminology, "likelihood" is used with the intent that it should have the same broad interpretation as the term "probability" has in many languages other than English.

Note 3 to entry: Risk can also be defined as the effect of uncertainty on *objectives* (3.1.5), where uncertainty is the state, even partial, of deficiency of *information* (3.10.1) related to understanding or knowledge of an event, its consequence or likelihood.

Note 4 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: EN 15975-2:2013, 2.6, modified — expanded to include wastewater and stormwater systems; Notes 1–4 to entry added.]

3.1.7
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* (3.1.3) 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: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2, 3.5, modified — Note 3 to entry added.]

3.1.8
stakeholder
interested party
person or *organization* (3.1.1) that can affect, be affected by, or perceive itself to be affected by a decision or activity

EXAMPLE *Users* (3.1.8.4) and building owners, *relevant authorities* (3.1.8.1), *responsible bodies* (3.1.8.3), *operators* (3.1.8.2), employees of the operator, external product suppliers and providers of other *services* (3.3.7), contractors, *communities* (3.1.8.5), customers and environmental associations, financial institutions, scientific and technical organizations, laboratories.

Note 1 to entry: Stakeholders will typically have an interest in the *performance* (3.9.1) or success of an organization.

Note 2 to entry: For the application of this document, *environment* (3.1.8.6) is considered as a specific stakeholder.

Note 3 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2, 3.2, modified — Example and Notes 1–3 to entry added.]

3.1.8.1
relevant authority
organization (3.1.1) with appropriate statutory powers of control

EXAMPLE National, regional or local governments, public agencies, regulators.

Note 1 to entry: Relevant authority is a category of *stakeholder* (3.1.8).

Note 2 to entry: For a given *water utility* (3.3.1), there can be several relevant authorities, which have jurisdiction in different domains.

Note 3 to entry: For ISO 24536[1)] amend Note 2 to read: "For a given *stormwater utility* (3.3.2), there can be several relevant authorities, which have jurisdiction in different domains."

[SOURCE: EN: 16323:2014, 2.1.3.1, modified — Example and Notes 1–3 to entry added.]

3.1.8.2
operator
person or *organization* (3.1.1) performing day-to-day *processes* (3.7.1) and activities necessary for the provision of the *service* (3.3.7)

EXAMPLE 1 Where *responsible body* (3.1.8.3) and operator are not legally distinct: a technical department in a municipality, a specific division of a regional authority.

EXAMPLE 2 Of legally distinct entities: a public organization, a private corporate company, a small contractor, an NGO, a cooperative.

Note 1 to entry: There can be one or several operators for a given *water utility* (3.3.1), for example distinct operators for installations' *operation* (3.5.10), billing and recovering service. Their missions are determined by the responsible body. An operator can subcontract some of its operations to other contractors, if allowed by the responsible body.

Note 2 to entry: The operator(s) can be legally distinct, or not, from the responsible body. They can be public or private.

Note 3 to entry: In the context of this document, an "operator" is not a person employed within an organization to operate a piece of equipment or process.

3.1.8.3
responsible body
body that has the overall legal responsibility for providing *drinking water* (3.2.2.1), *wastewater* (3.2.2.2) or *stormwater* (3.2.2.4) *services* (3.3.7) for a given geographic area

EXAMPLE A local or municipal government (e.g. for a village, town or city), a regional government, or a national or federal government through a specified agency, or a private company.

Note 1 to entry: Responsible body is a category of *stakeholder* (3.1.8).

Note 2 to entry: The responsible body can be legally distinct, or not, from the *operator(s)* (3.1.8.2). The responsible body can be public or private.

Note 3 to entry: The responsible body acts within a framework of law and governance established by the *relevant authorities* (3.1.8.1). It generally establishes the strategy, the specific *policies* (3.1.4) adapted to the characteristics of its area of responsibility and the general *organization* (3.1.1) of the relevant *water utility* (3.3.1).

1) Under preparation. Stage at the time of publication: ISO/FDIS 24536:2019.

Note 4 to entry: The responsible body can operate the water utility directly with its own means through an internal operator (direct or internal *management* or "in house") or entrust one or several operators for the *operations* (3.5.10) (*outsourced* (3.1.11) or contracted management).

3.1.8.4
user
DEPRECATED: consumer
person, group or *organization* (3.1.1) that benefits from *drinking water* (3.2.2.1) delivery and related *services* (3.3.7), *wastewater* (3.2.2.2) service activities, *stormwater* (3.2.2.4) service activities or from *reclaimed water* (3.2.2.3) delivery and related services

Note 1 to entry: Users are a category of *stakeholder* (3.1.8).

Note 2 to entry: Users can belong to various economic sectors: domestic users, commerce, industry, tertiary activities or agriculture.

Note 3 to entry: The term "consumer" can also be used, but in most countries the term "user" is more frequent when referring to public services.

3.1.8.4.1
registered user
user (3.1.8.4) for whom relevant *information* (3.10.1) is recorded by the *responsible body* (3.1.8.3) or *operator* (3.1.8.2)

Note 1 to entry: The term "customer" can be considered as a synonym, given that a customer has a commercial relationship, for example a *service agreement* (3.3.16), with the *water utility* (3.3.1). The term "customer" is currently used in such expressions as "customer relations".

3.1.8.5
community
one or more natural or legal persons and, in accordance with national legislation or practice, their associations, *organizations* (3.1.1) or groups, with interests in the area where the *service* (3.3.7) is provided

3.1.8.6
environment
surroundings in which an *organization* (3.1.1) operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation

Note 1 to entry: Surroundings can extend from within an organization to the local, regional and global *system* (3.9.3).

Note 2 to entry: Surroundings can be described in terms of biodiversity, ecosystems, climate or other characteristics.

Note 3 to entry: For the application of this document, environment is considered as a specific *stakeholder* (3.1.8). The interests of this specific stakeholder can be represented by *relevant authorities* (3.1.8.1), by the *communities* (3.1.8.5) or by other groups, such as non-governmental organizations (NGOs).

[SOURCE: ISO 14001:2015, 3.2.1, modified — Note 3 has been added.]

3.1.9
infrastructure
system (3.9.3) of facilities, equipment and *services* (3.3.7) needed for the *operation* (3.5.10) of an *organization* (3.1.1)

Note 1 to entry: In a *water utility* (3.3.1) it is advisable to reserve the term "infrastructure" for physically fixed equipment and installations.

[SOURCE: ISO 9000: 2015, 3.5.2, modified — Note 1 to entry added.]

3.1.10
technology
specific *infrastructure* (3.1.9) or method

3.1.11
outsource
make an arrangement where an external *organization* (3.1.1) performs part of an organization's function or *process* (3.7.1)

Note 1 to entry: An external organization is outside the scope of the *management system* (3.1.3), although the outsourced function or process is within the scope.

Note 2 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2, 3.14, modified — Note 2 to entry added.]

3.1.12
business activity
umbrella term covering all the functions, *processes* (3.7.1), activities and transactions of an *organization* (3.1.1) and its employees

Note 1 to entry: Includes public administration as well as commercial business.

[SOURCE: ISO 16175-2: 2011, 3.4, modified — "an" deleted; 2nd sentence becomes Note 1 to entry.]

3.1.12.1
business activity indicator
BAI
measure of *business activity* (3.1.12) that takes into account core business *operations* (3.5.10) specific to the application site

Note 1 to entry: Depending on the BAI, *water use* (3.4.2) (including any water consumed) will vary. For example: m^3 of water/kg of product; litres/person supplied; m^3 of water/guestroom.

EXAMPLE Quantity of products produced, number of staff and visitors, number of guestrooms.

3.1.13
documented information
information (3.10.1) 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* (3.1.3), including related *processes* (3.7.1);

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

— evidence of results achieved (records).

Note 3 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2, 3.11, modified — Note 3 to entry added.]

3.1.14
reliability
<information> degree of confidence in the *information* (3.10.1) for representing or for qualifying the relevant subject matter

Note 1 to entry: Information can be data, *indicators* (3.9.10) or estimations.

3.1.15
full-time equivalent
ratio of the total number of occupant hours spent in the facility divided by the standard working hours per day

Note 1 to entry: The ratio provides an estimation of actual facility occupancy in terms of hours occupied per day and is used to determine the number of occupants for the facility.

3.1.16
strategic plan
document identifying goals and *objectives* (3.1.5) to be pursued by an *organization* (3.1.1) over a long-term period in support of its mission and being consistent with its values

[SOURCE: ISO 17469-1:2015, 2.2, modified — "long-term period" replaces "multi-year period, typically three to five years".]

3.1.16.1
tactical plan
document identifying *objectives* (3.1.5) to be pursued by an *organization* (3.1.1) over the medium term, on the basis of priorities derived from influencing factors/*indicators* (3.9.10) on *performance* (3.9.1), costs, *risk* (3.1.6) and *failure* (3.6.13) probability and scale of failure

3.1.16.1.1
operational plan
documented collection of *procedures* (3.7.2) and *information* (3.10.1) that is developed, compiled and maintained in readiness for the conduct of *operations* (3.5.10)

3.1.17
capability
quality of being able to perform a given activity

Note 1 to entry: The terms competency and capability are often used synonymously. However, in English there is a subtle difference. *Competence* (3.1.18) is defined as the "ability to apply knowledge and skills to achieve intended results". In the context of either an *organization* (3.1.1) or an individual the "ability to apply" indicates the existence of the necessary resources, (the capacity to apply) such knowledge and skills. Hence "competence" is a necessary condition for having a "capability". By extension, therefore, in the context of an individual or an organization, "capability" can be interpreted as the ability to use and deploy (the capacity to deploy) competencies to achieve goals. See Saxena's post[34] for further details.

[SOURCE: Adapted from Saxena, K. B., Capabilities versus Competence: How are they Different?]

3.1.18
competence
ability to apply knowledge and skills to achieve intended results

Note 1 to entry: Demonstrated competence is sometimes referred to as qualification.

Note 2 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2, 3.10, modified — Notes 1–2 to entry added.]

3.1.19
sustainable development
development that meets the environmental, social and economic needs of the present generation without compromising the ability of future generations to meet their own needs

[SOURCE: ISO Guide 82: 2014, 3.2]

3.2 Concepts related to types and volumes of water

3.2.1
rain water
rainwater
water arising from atmospheric precipitation, which has not yet contacted the surface

[SOURCE: ISO 6107-1:2004, 57, modified — "which has not yet collected soluble matter from the earth" replaced by "which has not yet contacted the surface".]

3.2.2
runoff
rain water (3.2.1) that flows off a surface to reach a drain, sewer or receiving water

Note 1 to entry: Examples of a receiving water include an aquifer, a *sustainable drainage system* (3.5.12.1), a pond, a stream, a river, a lake, an estuary or a sea.

3.2.2.1
drinking water
DEPRECATED: potable water
water intended for human consumption

Note 1 to entry: *Requirements* (3.8.1) for drinking water *quality* (3.3.50) *specifications* (3.8.8) are generally laid down by the national *relevant authorities* (3.1.8.1). Guidelines[35] have been established by the World Health Organization (WHO).

3.2.2.2
wastewater
water arising from any combination of domestic, institutional, commercial or industrial activities, surface *runoff* (3.2.2) and any accidental sewer inflow/infiltration water and which can include collected *stormwater* (3.2.2.4), discharged to the *environment* (3.1.8.6) or sewer

Note 1 to entry: Wastewater can flow in separate or *combined sewer systems* (3.5.12.3.1.2).

Note 2 to entry: For ISO 24536[2)] add "Note 2 to entry: The definition of wastewater in this document also includes sanitary waste in undiluted form."

3.2.2.2.1
basic on-site domestic wastewater
water that contains only human body waste, human liquid waste, and can contain *grey water* (3.2.2.2.3) from washing, but does not contain commercial or industrial discharges

3.2.2.2.2
foul wastewater
wastewater (3.2.2.2) arising from activities in domestic, institutional, commercial or industrial premises

3.2.2.2.3
grey water
greywater
graywater
wastewater (3.2.2.2) from bathtubs and showers, hand basins, kitchen sinks, clothes washing and laundry tubs but excluding *excreta* (3.2.2.2.4) and *trade effluent* (3.2.2.2.5)

Note 1 to entry: It excludes used water from urinals or toilet bowls.

Note 2 to entry: Wastewater from kitchen sinks, food waste grinders or dishwashers can be excluded, subject to local *requirements* (3.8.1).

2) Under preparation. Stage at the time of publication: ISO/FDIS 24536:2019.

3.2.2.2.4
excreta
waste products of human metabolism, in solid or liquid form, generally urine and/or faeces

3.2.2.2.5
trade effluent
liquid, including particles of matter and other substances in suspension in the liquid, which is the outflow from any trade, business or manufacture or of any works of engineering or building construction

Note 1 to entry: Trade effluent is also referred to as trade waste.

3.2.2.3
reclaimed water
reused water
recycled water
non-drinking water
wastewater (3.2.2.2) that has been treated to meet specific water *quality* (3.3.50) *requirements* (3.8.1) for intended beneficial use

Note 1 to entry: Examples of treatment technologies include microfiltration, reverse osmosis and/or ultraviolet disinfection.

3.2.2.4
stormwater
water arising from precipitation and snowmelt

Note 1 to entry: Depending on volumes, stormwater can be stored, routed or conveyed into a collection *system* (3.9.3) or used (e.g. for irrigation or fire-fighting purposes) resulting in it ultimately finding its way back into the *environment* (3.1.8.6) (e.g. soaked into the soil or discharged to a natural water body).

Note 2 to entry: Stormwater can be contaminated.

Note 3 to entry: Stormwater is associated with the entire range of rainfall *events* (3.3.22).

Note 4 to entry: In some countries (e.g. European practice), stormwater is referred to as surface water.

3.2.3
reliability
<information> (*See 3.1.14*)

3.2.4
residue
subproduct resulting from the different *processes* (3.7.1) applied to *drinking water* (3.2.2.1), *wastewater* (3.2.2.2) or *stormwater* (3.2.2.4)

Note 1 to entry: Residues can be liquid, solid, gaseous or mixtures.

EXAMPLE Sludge, septage, sand or grit, grease, debris.

3.2.5
basic technology
minimum equipment or *process* (3.7.1) required to treat water and meet discharge *objectives* (3.1.5)

Note 1 to entry: In this context "water" can include water intended for drinking or non-drinking water purposes, *wastewater* (3.2.2), *reclaimed water* (3.2.2.3) and *stormwater* (3.2.2.4).

3.2.6
flushable product
product considered suitable for disposal through sewer networks and *wastewater* (3.2.2.2) collection and treatment *systems* (3.9.3), including *on-site treatment systems* (3.5.16), because it will not materially adversely impact those systems or be recognisable in effluent leaving on-site and municipal wastewater treatment systems or in the post-treatment products of treatment sludges

3.2.7
flooding
condition where water flows onto a surface or enters a structure or area where it is not intended

Note 1 to entry: Flooding includes *fluvial flooding* (3.2.7.1), *pluvial flooding* (3.2.7.2), sewer, groundwater and coastal surge flooding.

3.2.7.1
fluvial flooding
flooding (3.2.7) caused by high level of *rain water* (3.2.1) in natural water bodies

3.2.7.2
pluvial flooding
surface runoff flooding
flooding (3.2.7) caused by *rain water* (3.2.1) ponding on or flowing over the surface before it reaches a drain or watercourse

3.2.8
extreme flood volume
EFV
volume of *runoff* (3.2.2) to be captured safely within the catchment to prevent the *high flow conveyance system* (3.5.12.5.1) capacity being exceeded in extreme rainfall *events* (3.3.22)

Note 1 to entry: Volume of runoff includes *wastewater system* (3.5.12.3) flows.

3.2.9
integrated river basin management
process (3.7.1) of coordinating conservation, *management* (3.1.2) and development of *rain water* (3.2.1), land and related resources across sectors within a river basin

Note 1 to entry: integrated river basin management is also known as integrated watershed management.

3.3 Concepts related to water utility

3.3.1
water utility
whole set of *organization* (3.1.1), *processes* (3.7.1), activities, means and resources necessary for abstracting, treating, distributing or supplying *drinking water* (3.2.2.1), for collecting, conveying, treating, disposing of or reusing *wastewater* (3.2.2.2) or for the control, collection, storage, transport and use or disposal of *stormwater* (3.2.2.4), and for providing the associated *services* (3.3.7)

Note 1 to entry: Some key features for a water utility are:

— its mission, to provide drinking water services or wastewater services or the control, collection, storage, transport and use of stormwater services, or a combination thereof;

— its physical area of responsibility and the population within this area;

— its *responsible body* (3.1.8.3);

— the general organization with the function of *operator* (3.1.8.2) being carried out by the responsible body, or by legally distinct operators;

— the type of physical *systems* (3.9.3) used to provide the services, with various degrees of centralization.

Note 2 to entry: *Drinking water utility* (3.3.1.1) addresses a utility dealing only with drinking water; *wastewater utility* (3.3.1.2) addresses a utility dealing only with wastewater; *stormwater utility* (3.3.2) addresses a utility dealing only with stormwater.

Note 3 to entry: When it is not necessary or it is difficult to make a distinction between responsible body and operator, the term “water utility” covers both.

Note 4 to entry: In common English, “water service” can be used as a synonym for “water utility”, but this document does not recommend using the term in this way.

3.3.1.1
drinking water utility
whole set of *organization* (3.1.1), *processes* (3.7.1), activities, means and resources necessary for abstracting, treating, distributing or supplying *drinking water* (3.2.2.1) and for providing the associated *services* (3.3.7)

Note 1 to entry: Some key features for a drinking water utility are:

— its mission, to provide drinking water services;

— its physical area of responsibility and the population within this area;

— its *responsible body* (3.1.8.3);

— the general *organization* with the function of *operator* (3.1.8.2) being carried out by the responsible body, or by legally distinct operator(s);

— the type of physical *systems* (3.9.3) used to provide the services, with various degrees of centralization.

Note 2 to entry: The term drinking water utility addresses a utility dealing only with drinking water.

Note 3 to entry: When it is not necessary or it is difficult to make a distinction between responsible body and operator, the term “drinking water utility” covers both.

Note 4 to entry: In common English, “drinking water service” can be used as a synonym for “drinking water utility”, but this document does not recommend using the term in this way.

3.3.1.2
wastewater utility
whole set of *organization* (3.1.1), *processes* (3.7.1), activities, means and resources necessary for collecting, conveying, treating, reusing and disposing of *wastewater* (3.2.2.2) and for providing the associated *services* (3.3.7)

Note 1 to entry: Some key features for a wastewater utility are:

— its mission to provide wastewater services;

— its physical area of responsibility and the population within this area;

— its *responsible body* (3.1.8.3);

— the general organization with the function of *operator* (3.1.8.2) being carried out by the responsible body, or by legally distinct operator(s);

— the type of physical *systems* (3.9.3) used to provide the services, with various degrees of centralization.

Note 2 to entry: The term “wastewater utility” addresses a utility dealing only with wastewater.

Note 3 to entry: When it is not necessary or it is difficult to make a distinction between responsible body and operator, the term “wastewater utility” covers both.

Note 4 to entry: In common English, “wastewater service” can be used as a synonym for “wastewater utility”, but this document does not recommend using the term in this way.

3.3.2
stormwater utility
whole set of *organization* (3.1.1), *processes* (3.7.1), activities, means and resources necessary for collecting, conveying, treating, disposing of and reusing *stormwater* (3.2.2.4) and for providing the associated *services* (3.3.7)

Note 1 to entry: Some key features for a stormwater utility are:

— its mission to provide *stormwater* services ;

— its physical area of responsibility and the population within this area;

— its *responsible body* (3.1.8.3);

— the general organization with the function of *operator* (3.1.8.2) being carried out by the responsible body, or by legally distinct operator(s);

— the type of physical *systems* (3.9.3) used to provide the services, with various degrees of centralization.

Note 2 to entry: The term “stormwater utility” addresses a utility dealing only with stormwater.

Note 3 to entry: When it is not necessary or it is difficult to make a distinction between responsible body and operator, the term “stormwater utility” covers both.

Note 4 to entry: In common English, “stormwater service” can be used as a synonym for “stormwater utility”, but this document does not recommend using the term in this way.

3.3.3
relevant authority
(*See 3.1.8.1*)

3.3.4
responsible body
(*See 3.1.8.3*)

3.3.5
drinking water
(*See 3.2.2.1*)

3.3.6
wastewater
(*See 3.2.2.2*)

3.3.7
service
output of an *organization* (3.1.1) with at least one activity performed between the organization and, in the first place, its *user* (3.1.8.4) and, in the second place, a *stakeholder* (3.1.8)

Note 1 to entry: The dominant elements of a service are generally intangible.

Note 2 to entry: Service involves activities and *processes* (3.7.1) within an organization (utility), at the interface with the user, to establish user *requirements* (3.8.1) as well as upon delivery of the service and can involve a continuing relationship.

Note 3 to entry: Provision of a service can involve, for example, the following:

— an activity performed on a user-supplied tangible product [e.g. *wastewater* (3.2.2.2)];

— an activity performed on a user-supplied intangible product [e.g. processing new *connection* (3.3.37) requests];

— delivery of an intangible product [e.g. the delivery of *information* (3.10.1) in the context of knowledge transmission];

— the creation of ambience for the user (e.g. in reception offices).

Note 4 to entry: A service is generally experienced by the user and can be monitored by one or more stakeholders.

Note 5 to entry: The word "service" in common English can also refer to the entity providing the actions related to the subject in question, as is implicit in such phrases as "bus service", "police service", "fire service" and "water or wastewater service". In this context and usage, "service" implies the entity that is delivering the service, for example "the public transport of passengers", "the provision of public security", "fire protection and response" and "delivering *drinking water* (3.2.2.1) or collecting wastewater". If "service" can be understood in this way, "water service" becomes synonymous with "*water utility* (3.3.1)"; hence, in this document, in order to avoid confusion, only the definition in 3.3.7 applies.

[SOURCE: ISO 9000:2015, 3.7.7, modified — definition and Notes to entry 1 to 4 revised, Note to entry 5 added.]

3.3.8
level of service
parameter, or group of parameters, which reflect social, political, environmental and economic outcomes regarding the *service* (3.3.7) to *users* (3.1.8.4) that the *water utility* (3.3.1) delivers

Note 1 to entry: The service to users can include any of the following parameters: health, safety, user satisfaction, *quality* (3.3.50), quantity, capacity, *reliability* [<*information*> (3.1.14); <*asset/process*> (3.5.19)], responsiveness, environmental acceptability, cost and *availability* (3.3.21).

Note 2 to entry: A defined level of service can include any combination of the aforementioned parameters deemed important by the *asset* (3.6.1) owner, users or relevant *stakeholders* (3.1.8).

[SOURCE: ISO 55000:2014, 3.3.6, modified — made specific to service to users; "water utility" substituted for "organization"; Notes 1 and 2 to entry added.]

3.3.9
service area
local geographic area where an *organization* (3.1.1) has the legal or contractual responsibility to provide a *service* (3.3.7)

Note 1 to entry: The service area can be established, for example, by political boundaries (e.g. citywide utility); by legislative action (e.g. formation of a utility district); or by interjurisdictional agreements (e.g. intercity agreements to provide *wastewater* (3.2.2.2) services).

3.3.10
context information
information (3.10.1) on characteristics and framework of *drinking water* (3.2.2.1), *wastewater* (3.2.2.2) and *stormwater* (3.2.2.4) *services* (3.3.7)

Note 1 to entry: There are two possible types of context information:

— information describing pure context and external factors that are not under the control of the *water utility* (3.3.1) (e.g. demographics, topography, climate);

— characteristics that can only be influenced by *management* (3.1.2) decisions in the long term [e.g. age of the *infrastructure* (3.1.9)].

3.3.11
reliability
<information> (*See 3.1.14*)

3.3.12
user
(*See 3.1.8.4*)

3.3.13
registered user
(*See 3.1.8.4.1*)

3.3.14
effectiveness
extent to which planned activities are realized and planned results achieved

Note 1 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine “Notes to entry” appropriate for the document's context.

[SOURCE: ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2, 3.6, modified — Note 1 to entry added.]

3.3.15
efficiency
relationship between the result achieved and the resources used

[SOURCE: ISO 9000: 2015, 3.7.10]

3.3.16
service agreement
establishment of an accord between the *registered user* (3.1.8.4.1) and the *water utility* (3.3.1) on the conditions of *service* (3.3.7) provision

EXAMPLE A contract.

Note 1 to entry: It can be implicit or explicit.

3.3.17
tariff
structured, publicly available elements permitting calculation of the *price* (3.3.18) paid for a product or *service* (3.3.7)

EXAMPLE Flat (uniform) tariff for a cubic metre of *drinking water* (3.2.2.1); blocks with progressive or decreasing prices; prices of *connections* (3.3.37) depending on the pipe diameter.

Note 1 to entry: The tariff structure can contain fixed and variable elements.

Note 2 to entry: The tariff's period of applicability can be defined (e.g. an *organization's* (3.1.1) financial year) or undefined (e.g. “until further notice”).

3.3.18
price
counterpart in money or similar paid for the supply or provision of a product or *service* (3.3.7)

EXAMPLE Price of a cubic metre of *drinking water* (3.2.2.1); price of a *connection* (3.3.37) of xx metres in length.

Note 1 to entry: When relevant, price is expressed in relation to a unit of product or service.

3.3.19
affordability
ability to be economically bearable for the *users* (3.1.8.4)

Note 1 to entry: The affordability can be estimated through the degree to which charges for *services* (3.3.7) can be paid by targeted social groups of users without significant adverse economic or social impact, taking into account allowances for subsidies and payment assistance programmes for low-income users.

3.3.20
event detection
recognition of *event indicator* (3.3.41) and/or *information* (3.10.1) about a new situation

Note 1 to entry: New situations can be sorted into one of the following:

— *event indicator* and/or situation are considered known and non-hazardous;

— *event indicator* and/or situation are considered hazardous, but a *procedure* (3.7.2) to handle them already exists;

— *event indicator* and situation are considered unknown, and a procedure for them does not yet exist.

3.3.21
availability
extent to which the *infrastructure* (3.1.9), *assets* (3.6.1), resources and employees of a *water utility* (3.3.1) enable effective provision of *services* (3.3.7) to *users* (3.1.8.4) according to specified *performances* (3.9.1)

3.3.22
event
situation when a behaviour deviates from the normal

Note 1 to entry: An event can be one or more occurrences, and can have several causes.

Note 2 to entry: An event can consist of something not happening.

Note 3 to entry: An event can sometimes be referred to as an "*incident* (3.3.52)" or "accident".

Note 4 to entry: An event without *consequences* (3.3.57) can also be referred to as a "near miss", "incident", "near hit" or "close call".

Note 5 to entry: For ISO/TS 24522 add the following Note 5 to entry to read "For the purposes of this document, 'normal' refers to what is expected."

3.3.23
restriction
situation where the *service* (3.3.7) does not meet the *availability* (3.3.21) conditions specified in the *service agreement* (3.3.16)

3.3.24
operator
(*See 3.1.8.2*)

3.3.25
capability
(*See 3.1.17*)

3.3.26
competence
(*See 3.1.18*)

3.3.27
alternative drinking water service
ADWS
drinking water (3.2.2.1) provided to *users* (3.1.8.4) by means other than through the normal *drinking water system* (3.5.12.2)

Note 1 to entry: ADWS can be required due to the loss of supply or due to the fact that the water currently being supplied is believed unfit for the intended use.

Note 2 to entry: For the purposes of this document, ADWS only refers to the supply of drinking water. There can, however, be occasions where it is decided, for public health (e.g. toilet flushing) and safety (e.g. fire-fighting) reasons, to temporarily supply non-drinking water via the *drinking water distribution network* (3.5.12.2.1) in parallel with an ADWS.

3.3.28
alternative wastewater service
AWWS
wastewater (3.2.2.2) *service* (3.3.7) provided to *users* (3.1.8.4) by means other than through the normal collection or treatment *system* (3.9.3)

Note 1 to entry: AWWS can be required due to damage to components of the collection *system* (3.9.3) or the treatment plant that would result in impairment to the *environment* (3.1.8.6) or a *risk* (3.1.6) to public health and safety.

3.3.29
drinking water
(*See* 3.2.2.1)

3.3.30
containerized drinking water
packaged water
drinking water (3.2.2.1) deployed in containers for *alternative drinking water service* (3.3.27) provision

EXAMPLE 1 Bottled water, pre-prepared and hygienically sealed, with a predetermined shelf-life.

EXAMPLE 2 A personal water bag, pre-prepared but empty, and filled during an *incident* (3.3.52).

EXAMPLE 3 Static water tanks; towed bowsers; mobile water tankers, disinfected and deployed, and filled during an incident.

3.3.31
point-of-delivery
<drinking water> physical fixed interface, downstream of which the *water utility* (3.3.1) does not have the overall legal responsibility for the *service* (3.3.7) or *infrastructure* (3.1.9)

EXAMPLE A *connection* (3.3.37) box; a meter; the limit boundary between public and private property.

Note 1 to entry: The point-of-delivery is generally defined in the *service agreement* (3.3.16).

Note 2 to entry: In general, water utility employees have no legal empowerment for obtaining direct physical access to the installations downstream of the point-of-delivery.

Note 3 to entry: Point-of-delivery can also be referred to as the point-of-supply or the point-of-connection.

3.3.32
point-of-use
<drinking water> physical fixed interface where the *user* (3.1.8.4) normally takes the water for the intended use

EXAMPLE A tap, a public drinking fountain.

Note 1 to entry: The point-of-use can be in private or public property.

Note 2 to entry: The point-of-use can be the same as the *point-of-delivery* (3.3.31), for example in the case of a public drinking fountain.

3.3.33
reliability
<information> (*See* 3.1.14)

3.3.34
wastewater
(*See* 3.2.2.2)

3.3.35
point-of-collection
<wastewater> physical fixed interface, upstream of which the *water utility* (3.3.1) does not have the overall legal responsibility for the *service* (3.3.7) or *infrastructure* (3.1.9)

EXAMPLE The limit boundary between private and public property.

Note 1 to entry: The point-of-collection is generally defined in the *service agreement* (3.3.16).

Note 2 to entry: In general, the water utility employees have no legal empowerment for obtaining direct physical access to the installations upstream of the point-of-collection.

3.3.36
point-of-discharge
<wastewater> physical fixed interface where the *user* (3.1.8.4) normally discharges *wastewater* (3.2.2.2) for its collection and disposal

EXAMPLE A sink; a toilet.

3.3.37
connection
set of physical components ensuring the link between a *point-of-delivery* (3.3.31) and the local water main or the *point-of-collection* (3.3.35) and the sewer

Note 1 to entry: For *drinking water systems* (3.5.12.2), the term "service pipe" is currently used, but the connection can include components other than the service pipe, such as valves and meters.

Note 2 to entry: In English-speaking countries, for *wastewater systems* (3.5.12.3), the term "drain" can also be used; the connection can also be equipped with ancillaries.

3.3.38
coverage
extent to which the *assets* (3.6.1) of a *water utility* (3.3.1) allow *services* (3.3.7) to *users* (3.1.8.4), within its defined area of responsibility

3.3.39
hazard
source of potential harm

Note 1 to entry: Harm in the context of a *water utility* (3.3.1) can include injury to *stakeholders* (3.1.8), compromising of public health, degradation of the *environment* (3.1.8.6), a deterioration in *service* (3.3.7) *quality* (3.3.50), reputational and/or financial damage, and consequential sanctioning by the *relevant authorities* (3.1.8.1).

Note 2 to entry: Capacity for harm can also arise from compromised service provision. In this context a hazard can be considered to be a biological, chemical, physical or radiological agent in, or condition of, water with the potential to cause harm to public health or the environment. This perspective is based on the definition of "hazard" in the WHO Water Safety Plan Manual[36] (expanded to include "condition" which includes quantity (i.e. a shortage or an excess), hence making it applicable also to *wastewater* (3.2.2.2) service).

Note 3 to entry: Other sources of potential harm exist within the water utility's *organizational* (3.1.1) context. These hazards can be internal or external to the organization. Internal hazards could be tangible (e.g. a toxic chemical store; potential energy stored behind a dam perched on a hillside above a town; a chamber potentially containing a hazardous atmosphere) or intangible (poorly documented *procedures* (3.7.2); inadequate training; an inappropriate organizational culture). External hazards could be tangible (e.g. earthquake; *flooding* (3.2.7); forest fire) or intangible (social unrest; terrorism, cybercrime, corruption; financial instability).

[SOURCE: ISO Guide 73: 2009, 3.5.1.4, modified — Note 1 to entry deleted; new Notes 1–3 to entry inserted.]

3.3.40
event
(*See 3.3.22*)

3.3.40.1
hazardous event
event (3.3.22) that can cause harm

Note 1 to entry: See Notes 1–3 to entry in *hazard* (3.3.39) for sources of hazard and examples of harm in a *water utility* (3.3.1) context.

[SOURCE: ISO/IEC Guide 51:2014, 3.3, modified — Note 1 to entry added.]

3.3.41
event indicator
signal to the *water utility* (3.3.1) or one or more *stakeholders* (3.1.8) that an *event* (3.3.22) can have occurred with the potential to cause a significant deviation from the *users'* (3.1.8.4) expectations of *service* (3.3.7) *performance* (3.9.1)

Note 1 to entry: The signal can exist yet remain unobserved for a period.

3.3.42
documented information
(*See 3.1.13*)

3.3.43
measurement
process (3.7.1) to determine a value

Note 1 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2, 3.16, modified — Note 1 to entry added.]

3.3.44
influence matrix table
IMT
table developed by the *water utility* (3.3.1) that contains suspected connections between *event indicators* (3.3.41) and *performance* (3.9.1) *measurements* (3.3.43) based on scientific knowledge and water industry experience

3.3.45
event identification table
EIT
table developed by the *organization* (3.1.1) that contains examples of proven connections between changes in water *measurements* (3.3.43) and possible causation types

3.3.46
event detection
(*See 3.3.20*)

3.3.47
classify
act of classifying the nature of an *event* (3.3.22)

3.3.48
classification
category that the *event* (3.3.22) falls into

3.3.49
reliability
<information> (*See 3.1.14*)

3.3.50
quality
degree to which a set of inherent characteristics fulfils *requirements* (3.8.1)

Note 1 to entry: The term "quality" can be used with adjectives such as poor, good or excellent.

Note 2 to entry: "Inherent", as opposed to "assigned", means existing in the object.

Note 3 to entry: There is a clear distinction between quality of the product [*drinking water* (3.2.2.1) or treated *wastewater* (3.2.2.2)] and quality of the *service* (3.3.7). This document does not give technical *specifications* (3.8.8) for product quality.

[SOURCE: ISO 9000: 2015, 3.6.2, modified — Note 3 has been added.]

3.3.51
risk
(*See* 3.1.6)

3.3.52
incident
deviation from normal operating conditions

Note 1 to entry: An incident is characterized by its cause, the extent and the consequences (3.3.57) of the deviation.

Note 2 to entry: An incident can be a consequence of a *hazardous event* (3.3.40.1).

3.3.53
interruption
situation where the *service* (3.3.7) is not available or only partially available

Note 1 to entry: Interruptions can be planned or unplanned.

3.3.54
crisis
event (3.3.22) or situation which affects or is likely to affect the *organization* (3.1.1) or its provided *services* (3.3.7) which requires more than the usual means of *operation* (3.5.10) and/or organizational structures to deal with it

3.3.55
crisis management plan
document specifying which *procedures* (3.7.2) and associated resources should be applied by whom and where to a particular type of *crisis* (3.3.54)

3.3.56
recovery
provision of *policies* (3.1.4), *procedures* (3.7.2) and *processes* (3.7.1) that are necessary to restore *operations* (3.5.10) critical to the resumption of *service* (3.3.7)

Note 1 to entry: Recovery represents the last stage to be carried out during the *crisis* (3.3.54) phase and the post-crisis phase prior to the changeover to routine operations.

3.3.57
consequence
outcome of an *event* (3.3.22) affecting *objectives* (3.1.5)

Note 1 to entry: An event can lead to a range of consequences.

Note 2 to entry: A consequence can be certain or uncertain and can have positive or negative effects on objectives.

Note 3 to entry: Consequences can be expressed qualitatively or quantitatively.

Note 4 to entry: Initial consequences can escalate through knock-on effects.

[SOURCE: ISO Guide 73: 2009, 3.6.1.3]

3.4 Concepts related to water usage

3.4.1
water usage
activity or function in which, or for which, water is used

Note 1 to entry: Water usage can be attributable to one or more elements of *business activity* (3.1.12).

EXAMPLE Product manufacture, drinking water supply, vehicle cleaning, irrigation.

3.4.2
water use
amount of water used

Note 1 to entry: The amount of water used can be described and quantified by one or more *business activity indicator(s)* (3.1.12.1), for example m^3 of water/kg of product; litres/person supplied; m^3 of water/ guestroom.

Note 2 to entry: "Used" in this context means the gross amount required in the course of the *business activity* (3.1.12), including the amounts of both new *drinking water* (3.2.2.1) and *reclaimed water* (3.2.2.3).

Note 3 to entry: In ISO 24526[3)] the portion of water use that is neither returned to a water source after being withdrawn nor available for reclamation is called "water consumption". Consumption occurs, for example, when water is lost into the atmosphere through evaporation or incorporated into a product or plant (such as a corn stalk) and is no longer available for reclamation.

3.4.2.1
significant water use
activity accounting for a substantial portion of total *water used* (3.4.2) (including any water consumed) and/or offering considerable potential for *water efficiency performance* (3.4.13) improvement

Note 1 to entry: Water use can include both "new" *drinking water* (3.2.2.1) and *reclaimed water* (3.2.2.3) components.

3.4.3
water use review
determination of the *organization's* (3.1.1) *water efficiency performance* (3.4.13) based on data and other *information* (3.10.1), leading to identification of opportunities for improvement

3.4.4
water meter
instrument intended to measure continuously, store, and display the volume of water passing through the *measurement* (3.3.43) transducer at metering conditions

Note 1 to entry: A transducer is a device for converting energy from one domain into another, calibrated to minimize the errors in the conversion *process* (3.7.1). It could be a sensor or an actuator.

[SOURCE: ISO 16399: 2014, 3.1, modified — Note 1 to entry replaced.]

3.4.5
business activity indicator
(*See 3.1.12.1*)

3.4.6
full-time equivalent
(*See 3.1.15*)

3.4.7
water efficiency
accomplishment of a function, task, *process* (3.7.1), *service* (3.3.7) or result, with the minimum amount of water practicable

3.4.8
water efficiency indicator
WEI
amount of *water used* (3.4.2) per unit of *BAI* (3.1.12.1)

Note 1 to entry: "Used" in the context of this indicator means the net amount of *water used* (3.4.2) (including any water consumed) in the course of the *business activity* (3.1.12), discounting the amount of water applied that is reclaimed or recycled for further use.

3) Under preparation. Stage at the time of publication: ISO/DIS 24526:2019.

3.4.8.1
baseline water efficiency indicator
reference level of *water used* (3.4.2) per *business activity indicator* (3.1.12.1)

Note 1 to entry: "Used" in the context of this indicator means the net amount of water used (including any water consumed) in the course of the *business activity* (3.1.12), discounting the amount of water applied that is reclaimed or recycled for further use.

Note 2 to entry: The indicator can be established in the initial *water use review* (3.4.3) considering a data period suitable to the *organization's* (3.1.1) water use (including any water consumed).

3.4.9
water efficiency management plan
WEMP
document specifying the means of identifying the potential scope, measures, actions and priorities for achieving efficiencies in the *organization's* (3.1.1) current *water use* (3.4.2) (including any water consumed)

3.4.10
sustainable development
(*See 3.1.19*)

3.4.11
water efficiency policy
intentions and direction of an *organization* (3.1.1) related to its *water efficiency performance* (3.4.13) as formally expressed by *top management* (3.1.7)

Note 1 to entry: The water efficiency policy provides a framework for action and for the setting of water efficiency performance *objectives* (3.1.5) and targets.

[SOURCE: ISO 14001:2015, 3.1.3, modified — term changed, "environmental performance" replaced by "water efficiency performance" and Note 1 to entry added.]

3.4.12
water efficiency management system
WEMS
part of the *management system* (3.1.3) used to manage *water efficiency* (3.4.7) aspects, fulfil *requirements* (3.8.1) and address *risks* (3.1.6) and opportunities

[SOURCE: ISO 14001: 2015, 3.1.2, modified — to address water efficiency.]

3.4.13
water efficiency performance
measurable result related to *water efficiency* (3.4.7) or *water use* (3.4.2) (including any water consumed)

Note 1 to entry: In the context of *WEMS* (3.4.12), results can be measured against the *organization's* (3.1.1) *water efficiency policy* (3.4.11), *objectives* (3.1.5), targets and other water efficiency performance *requirements* (3.8.1).

Note 2 to entry: Water efficiency performance is one of the components of the *performance* (3.9.1) of the WEMS.

3.4.14
reliability
<information> (*See 3.1.14*)

3.5 Concepts related to management of assets and asset systems

3.5.1
management
(*See 3.1.2*)

3.5.1.1
stormwater management
co-ordinated activities to achieve the *objectives* (3.1.5) of *stormwater systems* (3.5.12.5) in a catchment area

Note 1 to entry: *Events* (3.3.22) such as storm surges, dam breaks and tsunamis can have an impact on stormwater management.

3.5.2
management of assets
processes (3.7.1) during the life cycle of an *asset* (3.6.1) to maintain value from an *asset system's* (3.5.12) existing assets while ensuring an agreed *level of service* (3.3.8) and function of the *system* (3.9.3)

Note 1 to entry: Processes include:

— all necessary activities for planning, design, procurement, construction/installation, *operation* (3.5.10), *maintenance* (3.5.9), *rehabilitation* (3.5.11) and disposal of assets of *drinking water systems* (3.5.12.2), *wastewater systems* (3.5.12.3) and *stormwater systems* (3.5.12.5) as a functional activity, including their review;

— setting *objectives* (3.1.5) and functional and *performance* (3.9.1) *requirements* (3.8.1);

— establishing *strategic plans* (3.1.16), *tactical plans* (3.1.16.1) and *operational plans* (3.1.16.1.1);

— undertaking *investigations* (3.5.7), including establishing necessary databases, to assess the actual condition of assets during the lifecycle of the asset system.

Note 2 to entry: In ISO 24510, ISO 24511 and ISO 24512 the term "asset management" is used to mean "management of assets".

3.5.3
strategic plan
(*See 3.1.16*)

3.5.4
tactical plan
(*See 3.1.16.1*)

3.5.5
operational plan
(*See 3.1.16.1.1*)

3.5.6
level of service
(*See 3.3.8*)

3.5.7
investigation
gathering of all *information* (3.10.1) necessary for a decision-making *process* (3.7.1)

Note 1 to entry: This should include both qualitative and quantitative information.

[SOURCE: EN 15898:2011, 3.6.3, modified — the word "conservation" and Note 2 to entry have been deleted.]

3.5.8
inspection
process (3.7.1) to identify the actual status of an *asset* (3.6.1) or *asset system* (3.5.12) by observation and judgement accompanied as appropriate by visual control, handling, *measurement* (3.3.43), testing or gauging

3.5.9
maintenance
combination of all technical, administrative and managerial actions during the life cycle of an *asset* (3.6.1) intended to retain it in, or restore it to, a state in which it can perform the required function

[SOURCE: ISO 16484-2, 2004, 3.114, modified — "item" replaced by "asset".]

3.5.10
operation
action(s) taken in the course of normal functioning of *drinking water systems* (3.5.12.2), *wastewater systems* (3.5.12.3) or *stormwater systems* (3.5.12.5)

EXAMPLE *Monitoring* (3.7.8) and regulation or diversion of *drinking water* (3.2.2.1) or *wastewater* (3.2.2.2).

[SOURCE: EN 752, 2017, modified — text and example amended to suit context.]

3.5.11
rehabilitation
measures for restoring or upgrading the *performance* (3.9.1) of existing *asset systems* (3.5.12), including *renovation* (3.6.16.2), *repair* (3.6.16.1) and *replacement* (3.6.16.3)

[SOURCE: EN 16323: 2014, 2.1.6.3, modified — "asset" inserted to read "asset systems".]

3.5.12
asset system
set of *assets* (3.6.1) that interact or are interrelated

[SOURCE: ISO 55000:2014, 3.2.5]

3.5.12.1
sustainable drainage system
solution(s) to manage *stormwater* (3.2.2.4) which mimic(s) natural hydrological *processes* (3.7.1)

EXAMPLE Constructed *wetland* (3.6.1.11); pond; infiltration trench; swale; rain garden.

Note 1 to entry: Sustainable drainage systems are a type of green infrastructure and a drainage management approach included within integrated planning strategies such as water-sensitive urban design and low-impact design.

3.5.12.2
drinking water system
asset system (3.5.12) providing the functions of abstracting, treating, storing, distributing or supplying *drinking water* (3.2.2.1)

3.5.12.2.1
drinking water distribution network
asset system (3.5.12) for distributing *drinking water* (3.2.2.1)

Note 1 to entry: Drinking water distribution network can include pipes, valves, hydrants, washouts, pumping stations and reservoirs, and other metering and ancillary *infrastructure* (3.1.9) and components.

Note 2 to entry: Pumping stations and reservoirs can be sited either in the *waterworks* (3.5.12.2.2) or in the drinking water distribution network.

3.5.12.2.2
waterworks
asset system (3.5.12) for collecting, treating, pumping and storing *drinking water* (3.2.2.1)

Note 1 to entry: *asset types* (3.6.1.1) can include catchments, impounding reservoirs, dams, springs, wells, intakes, *transmission mains* (3.5.13), filters, tanks, dosing equipment, metering and ancillary *infrastructure* (3.1.9).

Note 2 to entry: Pumping stations and reservoirs can be sited either in the waterworks or in the *drinking water distribution network* (3.5.12.2.1).

3.5.12.3
wastewater system
asset system (3.5.12) providing the functions of collection, transport, treatment and discharge of *wastewater* (3.2.2.2) and wastewater *residues* (3.2.4)

[SOURCE: EN 16323, 2.2.2.7, modified — the word "asset" has been inserted and punctuation added.]

3.5.12.3.1
wastewater conveyance system
wastewater transport system
wastewater network
system (3.9.3) of conduits used to remove and transport human waste and *wastewater* (3.2.2.2)

Note 1 to entry: A system typically begins with connecting pipes from buildings to one or more levels of larger sewer pipes, which terminate at a *wastewater treatment plant* (3.5.15).

Note 2 to entry: Flow in sewer pipes can be by gravity flow, pumped flow or a combination of the two.

Note 3 to entry: A wastewater conveyance system can also transport *stormwater* (3.2.2.4).

3.5.12.3.1.1
sanitary sewer system
system (3.9.3) intended to collect only water arising from any combination of domestic, institutional, commercial or industrial activities

Note 1 to entry: In some countries (e.g. European practice), a sanitary sewer is referred to as a *foul wastewater* (3.2.2.2.2) sewer.

3.5.12.3.1.2
combined sewer system
system (3.9.3) collecting and conveying *foul wastewater* (3.2.2.2.2) and *stormwater* (3.2.2.4) in the same conduit

3.5.12.4
on-site system
set of physical *assets* (3.6.1) necessary for supplying *drinking water* (3.2.2.1) or collecting, treating, disposing and reusing *wastewater* (3.2.2.2) without physical connection to centralized installations from a *water utility* (3.3.1)

3.5.12.5
stormwater system
system (3.9.3) for the collection, storage and conveyance of *stormwater* (3.2.2.4) including *sustainable drainage systems* (3.5.12.1)

Note 1 to entry: A stormwater system can include *combined sewer systems* (3.5.12.3.1.2) or separate sewer systems, which can incorporate green *infrastructure* (3.1.9) or source controls.

Note 2 to entry: A catchment can contain more than one stormwater system.

Note 3 to entry: A stormwater system does not include separate foul sewers, river basins or receiving waters.

Note 4 to entry: Interactions can exist between the stormwater system and the components listed in Note 3 to entry.

3.5.12.5.1
high-flow conveyance system
stormwater (3.2.2.4) conveyance system where exceedance flows overflow from the *system* (3.9.3) within defined pathways, including overland flows

3.5.12.5.2
low-flow conveyance system
stormwater (3.2.2.4) conveyance system where flow is confined within the *system* (3.9.3)

3.5.13
transmission main
asset system (3.5.12) for transportation of water from a source to an area where the water is treated, stored or distributed

Note 1 to entry: Transmission mains can transport either source water or *drinking water* (3.2.2.1) and are also referred to as conveyance mains.

3.5.14
drainline
drain line
pipe *system* (3.9.3) that transports *wastewater* (3.2.2.2) generated from within the building, through the building to the *on-site treatment system* (3.5.16) or to the *wastewater conveyance system* (3.5.12.3.1)

Note 1 to entry: This term can be applied to gravity, pumped and vacuum systems.

3.5.15
wastewater treatment plant
asset system (3.5.12) to transform *wastewater* (3.2.2.2) by physical, biological and/or chemical means

Note 1 to entry: The wastewater treatment plant can contain, for example, pumping stations, retention and detention tanks, *stormwater* (3.2.2.4) storage and overflow facilities, screens, sedimentation tanks, aeration tanks, filters, lagoons, sludge treatment facilities, chemical facilities, odour control and outflow facilities including grilles.

Note 2 to entry: Pumping stations and retention and detention tanks can also be sited in the *wastewater network* (3.5.12.3.1).

3.5.16
on-site treatment system
wastewater (3.2.2.2) treatment *system* (3.9.3) located on or near the site where the wastewater is generated

EXAMPLE Septic tank; RBC (Rotating Biological Contactor) system.

3.5.17
analysis
systematic examination in which the biological or technical *system* (3.9.3) is decomposed into its component parts using suitable methods, after which the parts are then organized and evaluated

Note 1 to entry: Analysis also includes operations carried out after sample preparation to determine the amount of concentration of the analyte(s) of interest present in the sample.

3.5.18
reliability
<information> (*See 3.1.14*)

3.5.19
reliability
<asset/process> probability that a device, *system* (3.9.3), or *process* (3.7.1) will perform its prescribed function without *failure* (3.6.13) for a given time when operated correctly in a specified *environment* (3.1.8.6)

3.6 Concepts related to assets

3.6.1
asset
item, thing or entity that has potential or actual value to a *water utility* (3.3.1)

Note 1 to entry: Assets are used in a water utility for the provision of the *service* (3.3.7).

Note 2 to entry: Value can be tangible or intangible, financial or non-financial, and includes consideration of *risks* (3.1.6) and liabilities. It can be positive or negative at different stages of the asset life.

Note 3 to entry: Physical assets usually refer to equipment, inventory and properties. Examples in the water sector are land, buildings, pipes, tanks, treatment plants, equipment and hardware. Physical assets are the opposite of intangible assets, which are non-physical assets such as leases, brands, digital assets, use rights, licences, intellectual property rights, reputation or agreements. Examples in the water sector are water rights, software and databases.

Note 4 to entry: A grouping of assets referred to as an *asset system* (3.5.12) could also be considered as an asset.

[SOURCE: ISO 55000:2014, 3.2.1, modified — "organization" replaced by "water utility" throughout; Note 1 to entry inserted; Note 3 to entry amended to reflect a water sector context.]

3.6.1.1
asset type
grouping of *assets* (3.6.1) having common characteristics that distinguish those assets as a group or class

Note 1 to entry: Examples of asset types include, but are not limited to, physical assets, *information* (3.10.1) assets, intangible assets, critical assets, enabling assets, linear assets, information and communications technology (ICT) assets, *infrastructure* (3.1.9) assets and moveable assets.

Note 2 to entry: Examples of physical asset types in the water sector are pipes, valves, pumping stations and reservoirs/tanks of the same type, size, material and function.

[SOURCE: ISO 55000: 2014, 3.2.6, modified — EXAMPLE deleted. New Notes 1 and 2 to entry added.]

3.6.1.1.1
wetland
area of land naturally covered with shallow water or constructed, lined and media-filled bed into which effluent is discharged and which contains suitable flora and fauna that grow and feed on the nutrients in the effluent

3.6.2
life cycle cost
total cost of an *asset* (3.6.1) or its parts throughout its life cycle

Note 1 to entry: Total cost can include planning, design, construction, acquisition, *operation* (3.5.10), *maintenance* (3.5.9), *rehabilitation* (3.5.11) and disposal costs.

Note 2 to entry: Total cost excludes any residual value obtained during disposal.

[SOURCE: ISO 15686-1: 2011, 3.11, modified — "while fulfilling its performance requirements" deleted; Notes 1 and 2 to entry added.]

3.6.3
asset system
(*See* 3.5.12)

3.6.4
investigation
(*See* 3.5.7)

3.6.5
reliability
<asset/process> (*See* 3.5.19)

3.6.6
reliability
<information> (*See* 3.1.14)

3.6.7
management of assets
(*See 3.5.2*)

3.6.8
maintenance
(*See 3.5.9*)

3.6.9
rate of return
percentage measure of project profitability, equal to project income divided by project investment

Note 1 to entry: The time period of *measurement* (3.3.43) can be annual or over the lifetime of the investment.

3.6.10
inspection
(*See 3.5.8*)

3.6.11
service life
period of time after installation during which an *asset* (3.6.1) or an *asset system* (3.5.12) meets or exceeds the technical and functional *requirements* (3.8.1)

[SOURCE: ISO 15686-1: 2011, 3.25, modified — "facility or its component parts" replaced by "asset or an asset system"; "performance requirements" replaced by "technical and functional requirements".]

3.6.12
sustainable development
(*See 3.1.19*)

3.6.13
failure
local inadmissible impairment of the operability of an *asset* (3.6.1) within an *asset system* (3.5.12) at a certain point in time on a certain asset

3.6.14
failure rate
ratio of the number of *failures* (3.6.13) of a given category to a given unit of measure

EXAMPLE Failures per unit of *assets* (3.6.1) and time, failures per number of actions.

Note 1 to entry: For pipelines, expressed per kilometre within a year.

Note 2 to entry: For *connections* (3.3.37) and valves in relation to *drinking water distribution networks* (3.5.12.2.1), expressed per thousand per year.

Note 3 to entry: For *wastewater systems* (3.5.12.3) in the case of connections, expressed per kilometre within a year.

Note 4 to entry: For treatment plants, pumping stations and similar facilities, expressed per year.

[SOURCE: ISO/IEC IEEE 24765: 2010, 3.1563, modified — Examples amended and Notes 1–4 to entry added.]

3.6.15
failure data
data characterizing the occurrence of a *failure* (3.6.13) *event* (3.3.22)

[SOURCE: ISO 14224: 2016, 3.25]

3.6.16
rehabilitation
(*See 3.5.11*)

3.6.16.1
repair
rectification of a local breakdown or damage

Note 1 to entry: Repair can be planned [e.g. preventive *maintenance* (3.5.9)] or unplanned (e.g. in the case of damage).

3.6.16.2
renovation
work incorporating all or part of the original fabric of an *asset* (3.6.1) by means of which its current *performance* (3.9.1) is improved

[SOURCE: EN 16323:2014, 2.1.6.4, modified — "the drain and sewer" replaced by "an asset".]

3.6.16.3
replacement
installation of a new *asset* (3.6.1), which incorporates the function of the old asset

3.6.17
rehabilitation rate
percentage of entire inventory which is rehabilitated/to be rehabilitated (usually in one year)

3.7 Concepts related to process

3.7.1
process
set of interrelated or interacting activities that use inputs to deliver an intended result

Note 1 to entry: Whether the "intended result" of a process is called an output, product or *service* (3.3.7) depends on the context of the reference.

Note 2 to entry: Inputs to a process are generally the outputs of other processes and outputs of a process are generally the inputs to other processes.

Note 3 to entry: Two or more interrelated and interacting processes in series can also be referred to as a process.

Note 4 to entry: Processes in an *organization* (3.1.1) are generally planned and carried out under controlled conditions to add value.

Note 5 to entry: A process where the *conformity* (3.8.3) of the resulting output cannot be readily or economically validated is frequently referred to as a "special process".

Note 6 to entry: In *benchmarking* (3.7.1.1), organizational and technical processes and combinations of both of them are considered. A process within the meaning of benchmarking comprises a combination of one task with one plant/one object (e.g. operate sewer network, treat *wastewater* (3.2.2.2), treat *drinking water* (3.2.2.1), provide domestic *connection* (3.3.37), further train staff, purchase material).

Note 7 to entry: In service standards the term "process" can have a broader meaning than its narrower interpretation in management system standards. For example, an *asset system* (3.5.12) (e.g. a water/wastewater treatment system) can contain a set of *assets* (3.6.1) that interact or are interrelated and can be called a "process". So in service standards the term "process" can be interpreted more widely than simply meaning "activities".

Note 8 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO 9000:2015, 3.4.1, modified — Note 6 to entry replaced; Notes 7 and 8 to entry added.]

3.7.1.1
benchmarking
systematic *process* (3.7.1) for the identification of, becoming acquainted with and adoption of successful practices of *benchmarking partners* (3.7.1.1.4)

Note 1 to entry: Typically benchmarking is a continual process.

Note 2 to entry: Benchmarking at process level means that the object of benchmarking is a process. For example, *operation* (3.5.10) of sewers, billing or material purchasing.

Note 3 to entry: Benchmarking at utility level means that the object of benchmarking is the *water utility* (3.3.1) and the main tasks are, for example, *drinking water* (3.2.2.1) and *wastewater* (3.2.2.2) *services* (3.3.7).

3.7.1.1.1
benchmarking object
public or private utilities, utility sectors, functions, *processes* (3.7.1), tasks, *services* (3.3.7) or other products, which are the subject of *benchmarking* (3.7.1.1) and, with clear-cut interfaces, are dissociated from each other and from non-investigated objects

EXAMPLE Sewer construction, pipe network *operation* (3.5.10).

3.7.1.1.2
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 can be determined collaboratively or individually.

Note 2 to entry: By *clustering* (3.7.1.1.5), different benchmarks can occur for different peer groups.

3.7.1.1.3
deviation from benchmark
result of the comparison of *performance indicators* (3.9.6), as the difference of an observed value from the *benchmark* (3.7.1.1.2) applied

3.7.1.1.4
benchmarking partner
participant in a *benchmarking* (3.7.1.1) project

3.7.1.1.5
clustering
grouping of *benchmarking objects* (3.7.1.1.1) according to different kinds of criteria [*context information* (3.3.10) or *explanatory factors* (3.9.7)] in order to create rather homogenous sets of peers

EXAMPLE Clustering by utility size, delivered volume, served population, network delivery rate (m^3/km/year).

Note 1 to entry: For different *performance indicators* (3.9.6), different clustering might be appropriate; by clustering, specific *benchmarks* (3.7.1.1.2) can/will occur for each peer group.

Note 2 to entry: The result of clustering is a comparison of performance indicators less influenced by the clustering criteria.

3.7.1.2
land treatment
process (3.7.1) which can include simply spraying homogenized waste onto a land surface for bacterial breakdown through the effects of sun and climate or subsurface discharge of partially treated (after removal of suspended solids) *wastewater* (3.2.2.2) and decomposition of dissolved organics in the soil anaerobic *environment* (3.1.8.6)

3.7.1.3
disintegration
physical breakdown of a material into fragments

3.7.1.3.1
dispersion
disintegration (3.7.1.3) *process* (3.7.1) that is characterized by a material breaking into fine pieces that separate from each other and distribute themselves in liquid

Note 1 to entry: It is *operationally* (3.5.10) defined by measuring mass loss of the product that passes through sieves after exposure to specific environmental conditions.

Note 2 to entry: Ideally it should be a direct measure of the separation of the particles and the evenness of the particle numbers within water.

3.7.1.4
biodegradation
degradation caused by biological activity, especially by enzymatic action, leading to a significant change in the chemical structure of a material

Note 1 to entry: A material is biodegradable if it can, with the help of microorganisms, break down into natural elements (e.g. water, carbon dioxide, biomass).

[SOURCE: ISO 472: 2013, 2.1680, modified — Note 1 to entry added.]

3.7.1.5
settling
process (3.7.1) by which the whole or dispersed pieces of a discharged material will deposit themselves at lower levels of a body of fluid, through the loss of buoyancy

Note 1 to entry: This effect can be observed in both a column of liquid (i.e. with still fluid) and in flowing fluids (i.e. as in pipes).

3.7.1.6
event detection process
EDP
set of interrelated or interacting activities which transforms inputs [data or *information* (3.10.1) on an actual or suspected *event* (3.3.22)] into outputs (to support the *water utility*'s (3.3.1) *operational* (3.5.10) activities)

3.7.2
procedure
specified way to carry out an activity or a *process* (3.7.1)

Note 1 to entry: Procedures can be documented or not.

[SOURCE: ISO 9000: 2015, 3.4.5]

3.7.3
analysis
(*See 3.5.17*)

3.7.4
reliability
<information> (*See 3.1.14*)

3.7.5
investigation
(*See 3.5.7*)

3.7.6
measurement
(*See 3.3.43*)

3.7.7
extreme flood volume
(*See* 3.2.8)

3.7.8
monitoring
determining the status of a *system* (3.9.3), a *process* (3.7.1) or an activity

Note 1 to entry: To determine the status, there may be a need to check, supervise or critically observe.

Note 2 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2, 3.15, modified — Note 2 to entry added.]

3.7.9
audit
systematic, independent and documented *process* (3.7.1) for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled

Note 1 to entry: An audit can be an internal audit (first party) or an external audit (second party or third party), and it can be a combined audit (combining two or more disciplines).

Note 2 to entry: An internal audit is conducted by the *organization* (3.1.1) itself, or by an external party on its behalf.

Note 3 to entry: "Audit evidence" and "audit criteria" are defined in ISO 19011.

Note 4 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2, 3.17, modified — Note 4 to entry added.]

3.7.10
accuracy
closeness of agreement between a measure and the accepted reference value

Note 1 to entry: The term "accuracy", when applied to a set of measures, involves a combination of random components and a common systematic error or bias component.

[SOURCE: ISO 3534-2:2006, 3.3.1, modified — Note 1 to entry subsumed into the definition; Note 2 to entry becomes Note 1 to entry here; Note 3 to entry deleted.]

3.7.11
reliability
<asset/process> (*See* 3.5.19)

3.7.12
assessment
process (3.7.1), or result of this process, comparing a specified subject matter with relevant references

3.7.13
confidence grade
assessment (3.7.12) of the *quality* (3.3.50) in terms of *accuracy* (3.7.10) and *reliability* [*<information>* (3.1.14); *<asset/process>* (3.5.19)]

3.8 Concepts related to requirement

3.8.1
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 *water utilities* (3.3.1), the *users* (3.1.8.4) of the *service* (3.3.7) and other *stakeholders* (3.1.8), that the need or expectation under consideration is implied.

Note 2 to entry: A specified requirement is one that is stated, for example in *documented information* (3.1.13).

Note 3 to entry: A qualifier can be used to denote a specific type of requirement, for example product requirement, quality management requirement, user requirement or *quality* (3.3.50) requirement.

Note 4 to entry: Requirements can be generated by different stakeholders, or by the *drinking water utility* (3.3.1.1), *wastewater utility* (3.3.1.2) or *stormwater utility* (3.3.2) itself.

Note 5 to entry: It can be necessary for achieving high customer satisfaction to fulfil an expectation of a customer even if it is neither stated nor generally implied or obligatory.

Note 6 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO 9000: 2015, 3.6.4, modified — Note 6 to entry replaced; text tailored for water sector context.]

3.8.2
compliance obligation
legal requirement or other requirement
requirement (3.8.1) that an *organization* (3.1.1) has to or chooses to comply with

Note 1 to entry: This could be a legal requirement or another type of requirement.

[SOURCE: ISO 19600: 2014, 3.16, modified — incorporating additional elements from 3.14 and 3.15 of that standard.]

3.8.3
conformity
fulfilment of a *requirement* (3.8.1)

Note 1 to entry: In English the word "conformance" is synonymous but deprecated. In French the word "compliance" is synonymous but deprecated.

Note 2 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2, 3.18, modified — Notes 1–2 to entry added.]

3.8.4
nonconformity
non-fulfilment of a *requirement* (3.8.1)

Note 1 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2, 3.19, modified — Note 1 to entry added.]

3.8.5
correction
action to eliminate a detected *nonconformity* (3.8.4)

Note 1 to entry: A correction can be made in advance of, in conjunction with or after a *corrective action* (3.8.6).

Note 2 to entry: A correction can be, for example, rework or *repair* (3.6.16.1).

[SOURCE: ISO 9000: 2015, 3.12.3, modified — "regrade" replaced by "repair".]

3.8.6
corrective action
action to eliminate the cause of a *nonconformity* (3.8.4) and to prevent recurrence

Note 1 to entry: There can be more than one cause for a nonconformity.

Note 2 to entry: Corrective action is taken to prevent recurrence whereas preventive action is taken to prevent occurrence.

Note 3 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO 9000: 2015, 3.12.2, modified — Note 3 to entry replaced.]

3.8.7
reliability
<information> (*See 3.1.14*)

3.8.8
specification
document defining *requirements* (3.8.1) for *performance* (3.9.1) of a product

[SOURCE: ISO 12576-2:2008, 3.7, modified — The definite article "the" is replaced with the indefinite article "a".]

3.9 Concepts related to performance

3.9.1
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* (3.1.2) of activities, *processes* (3.7.1), products [including *services* (3.3.7)], *systems* (3.9.3) or *organizations* (3.1.1).

Note 3 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO/IEC Directives Part 1, 2018, Annex SL, Appendix 2, 3.13, modified — Note 3 to entry added.]

3.9.2
performance category
classification of the general *objectives* (3.1.5) of *drinking water* (3.2.2.1), *wastewater* (3.2.2.2) and *stormwater* (3.2.2.4) *services* (3.3.7)

Note 1 to entry: The main categories are *reliability* (3.5.19), *quality* (3.3.50), customer service, sustainability and economic *efficiency* (3.3.15).

Note 2 to entry: *Assessment* (3.7.12) criteria can be grouped by performance categories.

3.9.3
system
set of interrelated or interacting elements

Note 1 to entry: In service standards the term "system" can have a broader meaning than its narrower interpretation in management system standards. For example, it can include some *processes* (3.7.1) as well.

[SOURCE: ISO 9000: 2015, 3.5.1, modified — Note 1 to entry added.]

3.9.4
continual improvement
recurring activity to enhance *performance* (3.9.1)

Note 1 to entry: The *process* (3.7.1) of establishing *objectives* (3.1.5) and finding opportunities for improvement is a continual process through the use of *audit* (3.7.9) findings and audit conclusions, *analysis* (3.5.17) of data, *management* (3.1.2) reviews or other means and generally leads to *corrective action* (3.8.6) or preventive action.

Note 2 to entry: The nature of the activity can differ between cycles of recurrence.

Note 3 to entry: For any ISO/TC 224 document that is an MSS, obtain the definition of this term from the latest edition of ISO/IEC Directives Part 1. Determine "Notes to entry" appropriate for the document's context.

[SOURCE: ISO 9000: 2015, 3.3.2, modified — Note 2 to entry replaced and new Note 3 to entry added.]

3.9.5
reliability
<information> (*See 3.1.14*)

3.9.6
performance indicator
parameter, or a value derived from parameters, which provides *information* (3.10.1) about *performance* (3.9.1)

Note 1 to entry: Performance indicators are typically expressed as ratios between variables. These ratios can be commensurate (e.g. %) or non-commensurate (e.g. $/m^3$).

Note 2 to entry: Performance indicators are means to measure the *efficiency* (3.3.15) and *effectiveness* (3.3.14) of a *water utility* (3.3.1) in achieving its *objectives* (3.1.5).

3.9.7
explanatory factor
reason for deviations of *performance indicators* (3.9.6) of various *benchmarking partners* (3.7.1.1.4)

Note 1 to entry: Explanatory factors can be differentiated into modifiable components (e.g. energy consumption) and non- or only long-term modifiable components (e.g. water source). Non- or only long-term modifiable components result from the *context information* (3.3.10) of the *water utilities* (3.3.1). For the interpretation of performance indicator results, explanatory factors are essential. They can be derived from the context information. Under certain circumstances, a standardization is possible and sensible for the establishing of comparability, for example the standardization of different depreciation rates.

3.9.8
performance indicator comparison
comparison of values of *performance indicators* (3.9.6) against a target value; previous values of the same *indicator* (3.9.10); or values of the same indicator from other utilities

3.9.9
performance indicator system
controlled compilation of *performance indicators* (3.9.6), which are related to each other either logically or mathematically and which, overall, are aimed at a common, superior *objective* (3.1.5) or *benchmarking object* (3.7.1.1.1)

3.9.10
indicator
parameter, or a value derived from parameters, which provides *information* (3.10.1) about a subject matter with a significance extending beyond that directly associated with a parameter value

Note 1 to entry: Adapted from OECD works on "Core sets of indicators for environmental performance reviews"[37].

Note 2 to entry: Indicators can refer to context, conditions, means, activities or *performances* (3.9.1).

3.9.11
data variable
technical or economic parameter for the description of *benchmarking objects* (3.7.1.1.1) as a basis for the calculation of *performance indicators* (3.9.6)

EXAMPLE Energy in [kWh/year], COD in [kg/year], costs in [$/year] or treated (waste)water quantities in [m^3/year].

Note 1 to entry: The basis for resilient performance indicators is a clear definition of the parameters within a structured data model taking into account the data confidence [e.g. *reliability* (3.1.14), *accuracy* (3.7.10)].

Note 2 to entry: Each variable should:

— fit the definition of the performance indicator or *context information* (3.3.10) it is used for;

— refer to the same geographical area and the same period of time or reference date as the performance indicator or context information it will be used for;

— be as reliable and accurate as the decisions based on it require.

3.9.12
benchmarking object
(*See 3.7.1.1.1*)

3.9.13
aggregated performance indicator
performance indicator (3.9.6) at superior level, that represents on more levels of detail

Note 1 to entry: A highly aggregated performance indicator gathers *information* (3.10.1) 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 synonymously to *data variables* (3.9.11).

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* (3.7.1.1.1).

3.9.14
service assessment criteria
link between *objectives* (3.1.5) and *performance indicators* (3.9.6)

3.9.15
objective
(*See 3.1.5*)

3.9.16
reference parameter
data variable (3.9.11) used in the denominator of a *performance indicator* (3.9.6)

Note 1 to entry: The reference parameter is aligned with the specific *benchmarking object* (3.7.1.1.1) described by the specific performance indicator (e.g. treated (waste)water quantity, influent loading, influent or connected inhabitants plus population equivalents).

Note 2 to entry: In the case of *benchmarking* (3.7.1.1) of the whole *drinking water* (3.2.2.1), *wastewater* (3.2.2.2) or *stormwater* (3.2.2.4) *service* (3.3.7), the denominator should represent one dimension of the *system* (3.9.3) (e.g. number of service *connections* (3.3.37), total water main length, annual costs). This allows for comparisons through time, or between systems.

3.9.17
improvement potential
deviation of a *performance indicator* (3.9.6) from the *benchmark* (3.7.1.1.2)

Note 1 to entry: The deviation can be reduced through improvement actions.

3.10 Concepts related to information

3.10.1
information
knowledge concerning objects, such as facts, *events* (3.3.22), things, *processes* (3.7.1), or ideas, including concepts, that within a certain context has a particular meaning

[SOURCE: ISO 8000-2:2018, 3.2.1]

3.10.2
context information
(*See 3.3.10*)

3.10.3
documented information
(*See 3.1.13*)

3.10.4
reliability
<information> (*See 3.1.14*)

Annex A
(informative)

English terms in alphabetical order

A.1 General

Use of the concept system is helpful for the translation of terminology into other languages. However, to aid rapid navigation within the document, Table A.1 presents all the terms in alphabetical order against their respective subclause numbering.

Table A.1 can be reordered to support similar navigation in other languages.

A.2 English terms in alphabetical order

Table A.1 — English terms in alphabetical order

Subclause	Term
3.7.10	accuracy
3.3.19	affordability
3.9.13	aggregated performance indicator
3.3.28	alternative wastewater service
3.3.27	alternative drinking water service
3.5.17	analysis
3.7.12	assessment
3.6.1	asset
3.5.12	asset system
3.6.1.1	asset type
3.7.9	audit
3.3.21	availability
3.4.8.1	baseline water efficiency indicator
3.2.2.2.1	basic on-site domestic wastewater
3.2.5	basic technology
3.7.1.1.2	benchmark
3.7.1.1	benchmarking
3.7.1.1.1	benchmarking object
3.7.1.1.4	benchmarking partner
3.7.1.4	biodegradation
3.1.12	business activity
3.1.12.1	business activity indicator
3.1.17	capability
3.3.48	classification
3.3.47	classify
3.7.1.1.5	clustering
3.5.12.3.1.2	combined sewer system

Table A.1 *(continued)*

Subclause	Term
3.1.8.5	community
3.1.18	competence
3.8.2	compliance obligation *Admitted term* legal requirement or other requirement
3.7.13	confidence grade
3.8.3	conformity
3.3.37	connection
3.3.57	consequence
3.3.30	containerized drinking water *Admitted term* packaged water
3.3.10	context information
3.9.4	continual improvement
3.8.5	correction
3.8.6	corrective action
3.3.38	coverage
3.3.54	crisis
3.3.55	crisis management plan
3.9.11	data variable
3.7.1.1.3	deviation from benchmark
3.7.1.3	disintegration
3.7.1.3.1	dispersion
3.1.13	documented information
3.5.14	drainline *Admitted term* drain line
3.2.2.1	drinking water
3.5.12.2.1	drinking water distribution network
3.5.12.2	drinking water system
3.3.1.1	drinking water utility
3.3.14	effectiveness
3.3.15	efficiency
3.1.8.6	environment
3.3.22	event
3.3.20	event detection
3.7.1.6	event detection process
3.3.45	event identification table
3.3.41	event indicator
3.2.2.2.4	excreta
3.9.7	explanatory factor
3.2.8	extreme flood volume
3.6.13	failure

Table A.1 *(continued)*

Subclause	Term
3.6.15	failure data
3.6.14	failure rate
3.2.7	flooding
3.2.6	flushable product
3.2.7.1	fluvial flooding
3.2.2.2.2	foul wastewater
3.1.15	full-time equivalent
3.2.2.2.3	grey water *Admitted term* greywater graywater
3.3.39	hazard
3.3.40.1	hazardous event
3.5.12.5.1	high-flow conveyance system
3.9.17	improvement potential
3.3.52	incident
3.9.10	indicator
3.3.44	influence matrix table
3.10.1	information
3.1.9	infrastructure
3.5.8	inspection
3.2.9	integrated river basin management
3.3.53	interruption
3.5.7	investigation
3.7.1.2	land treatment
3.3.8	level of service
3.6.2	life cycle cost
3.5.12.5.2	low-flow conveyance system
3.5.9	maintenance
3.1.2	management
3.5.2	management of assets
3.1.3	management system
3.3.43	measurement
3.7.8	monitoring
3.8.4	nonconformity
3.1.5	objective
3.5.12.4	on-site system
3.5.16	on-site treatment system
3.5.10	operation
3.1.16.1.1	operational plan
3.1.8.2	operator
3.1.1	organization
3.1.11	outsource

Table A.1 *(continued)*

Subclause	Term
3.9.1	performance
3.9.2	performance category
3.9.6	performance indicator
3.9.8	performance indicator comparison
3.9.9	performance indicator system
3.2.7.2	pluvial flooding *Admitted term* surface runoff flooding
3.3.35	point-of-collection <wastewater>
3.3.31	point-of-delivery <drinking water>
3.3.36	point-of-discharge <wastewater>
3.3.32	point-of-use <drinking water>
3.1.4	policy
3.3.18	price
3.7.2	procedure
3.7.1	process
3.3.50	quality
3.2.1	rain water *Admitted term* rainwater
3.6.9	rate of return
3.2.2.3	reclaimed water *Admitted term* reused water recycled water non-drinking water
3.3.56	recovery
3.9.16	reference parameter
3.1.8.4.1	registered user
3.5.11	rehabilitation
3.6.17	rehabilitation rate
3.1.8.1	relevant authority
3.5.19	reliability <asset/process>
3.1.14	reliability <information>
3.6.16.2	renovation
3.6.16.1	repair
3.6.16.3	replacement
3.8.1	requirement
3.2.4	residue
3.1.8.3	responsible body
3.3.23	restriction
3.1.6	risk
3.2.2	runoff

Table A.1 *(continued)*

Subclause	Term
3.5.12.3.1.1	sanitary sewer system
3.3.7	service
3.3.16	service agreement
3.3.9	service area
3.9.14	service assessment criteria
3.6.11	service life
3.7.1.5	settling
3.4.2.1	significant water use
3.8.8	specification
3.1.8	stakeholder *Admitted term* interested party
3.2.2.4	stormwater
3.5.1.1	stormwater management
3.5.12.5	stormwater system
3.3.2	stormwater utility
3.1.16	strategic plan
3.1.19	sustainable development
3.5.12.1	sustainable drainage system
3.9.3	system
3.1.16.1	tactical plan
3.3.17	tariff
3.1.10	technology
3.1.7	top management
3.2.2.2.5	trade effluent
3.5.13	transmission main
3.1.8.4	user
3.2.2.2	wastewater
3.5.12.3.1	wastewater conveyance system *Admitted term* wastewater transport system wastewater network
3.5.12.3	wastewater system
3.5.15	wastewater treatment plant
3.3.1.2	wastewater utility
3.4.7	water efficiency
3.4.8	water efficiency indicator
3.4.9	water efficiency management plan
3.4.12	water efficiency management system
3.4.13	water efficiency performance
3.4.11	water efficiency policy
3.4.4	water meter
3.4.1	water usage

Table A.1 *(continued)*

Subclause	Term
3.4.2	water use
3.4.3	water use review
3.3.1	water utility
3.5.12.2.2	waterworks
3.6.1.1.1	wetland

Annex B
(informative)

Concept relationships and their graphical representation

B.1 General

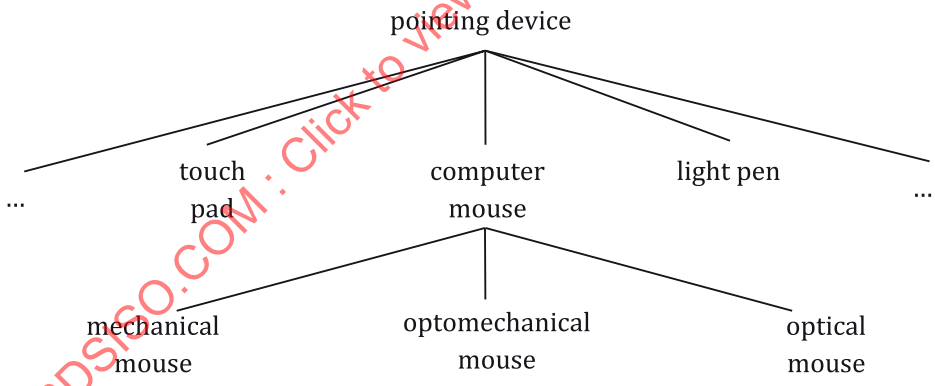
In terminology work, the relationships between concepts are based on the hierarchical formation of the characteristics of a species so that the most economical description of a concept is formed by naming its species and describing the characteristics that distinguish it from its parent or sibling concepts.

There are three primary forms of concept relationships indicated in this annex: generic (B.2), partitive (B.3) and associative (B.4).

B.2 Generic relation

Subordinate concepts within the hierarchy inherit all the characteristics of the superordinate concept and contain descriptions of these characteristics which distinguish them from the superordinate (parent) and coordinate (sibling) concepts, for example the relation of "touch pad", "computer mouse" and "light pen" to the superordinate concept of "pointing device".

Generic relations are depicted by a fan or tree diagram without arrows (Figure B.1).



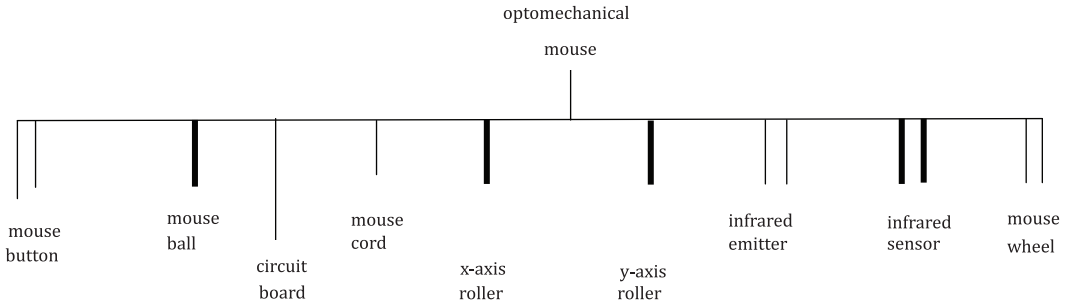
SOURCE: ISO 704:2009, 5.5.2.2.1

Figure B.1 — Graphical representation of a generic relation

B.3 Partitive relation

Subordinate concepts within the hierarchy form constituent parts of the superordinate concept, for example "mouse button", "mouse ball" and "mouse wheel" can be defined as parts of the concept "optomechanical mouse". In comparison, it is inappropriate to define "colour" (one possible characteristic of a "mouse button") as part of an "optomechanical mouse".

Partitive relations are depicted by a rake without arrows (Figure B.2).



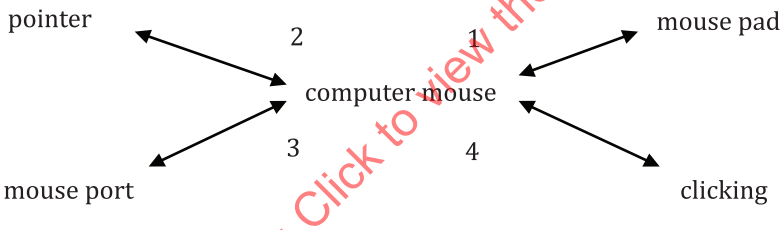
SOURCE: ISO 704:2009, 5.5.2.3.1

Figure B.2 — Graphical representation of a partitive relation

B.4 Associative relation

Associative relations cannot provide the economies in description that are present in generic and partitive relations but are helpful in identifying the nature of the relationship between one concept and another within a concept system, for example cause and effect, activity and location, activity and result, tool and function, material and product.

Associative relations are depicted by a line with arrowheads at each end (Figure B.3).



Key

1 tool – accessory
2 controlled – controller
3 tool – connection
4 tool – activity

SOURCE: ISO 704:2009, 5.6.2

Figure B.3 — Graphical representation of an associative relation

B.5 Concept diagrams

Figures B.4 to B.13 show the concept diagrams on which the thematic groupings of 3.1 to 3.10 are based.

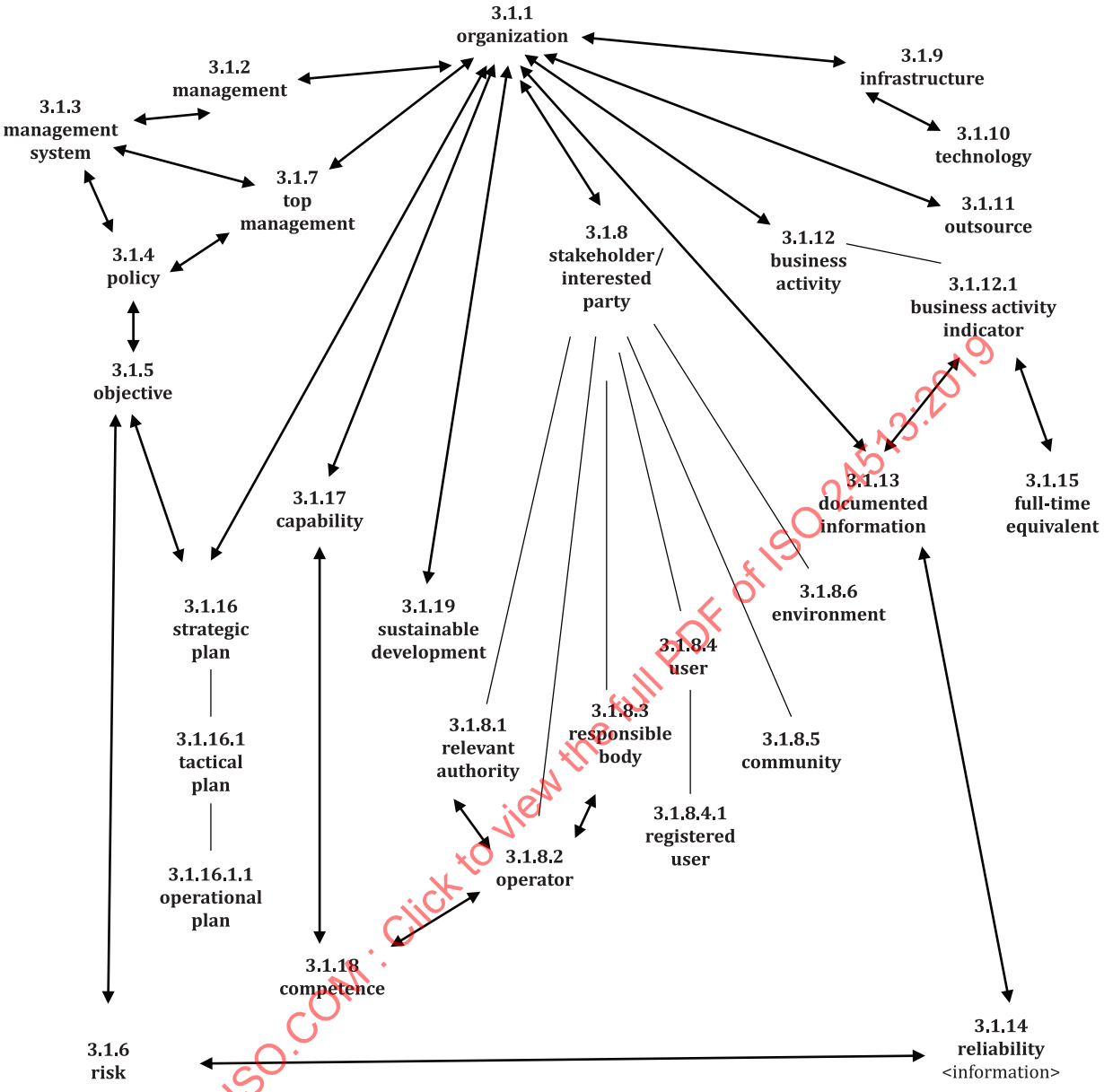


Figure B.4 — 3.1 Concepts related to organization

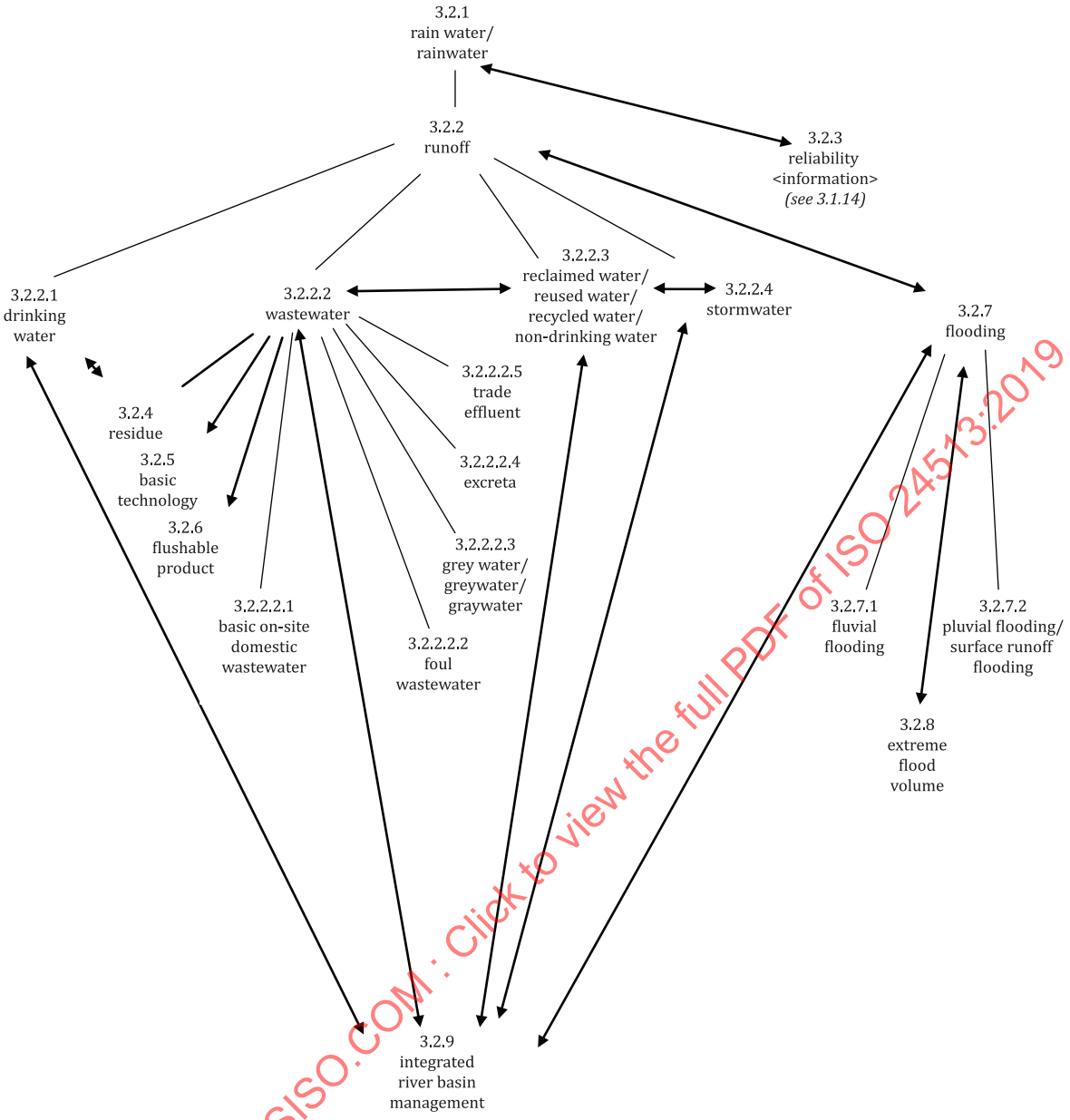


Figure B.5 — 3.2 Concepts related to types of water and volumes of water

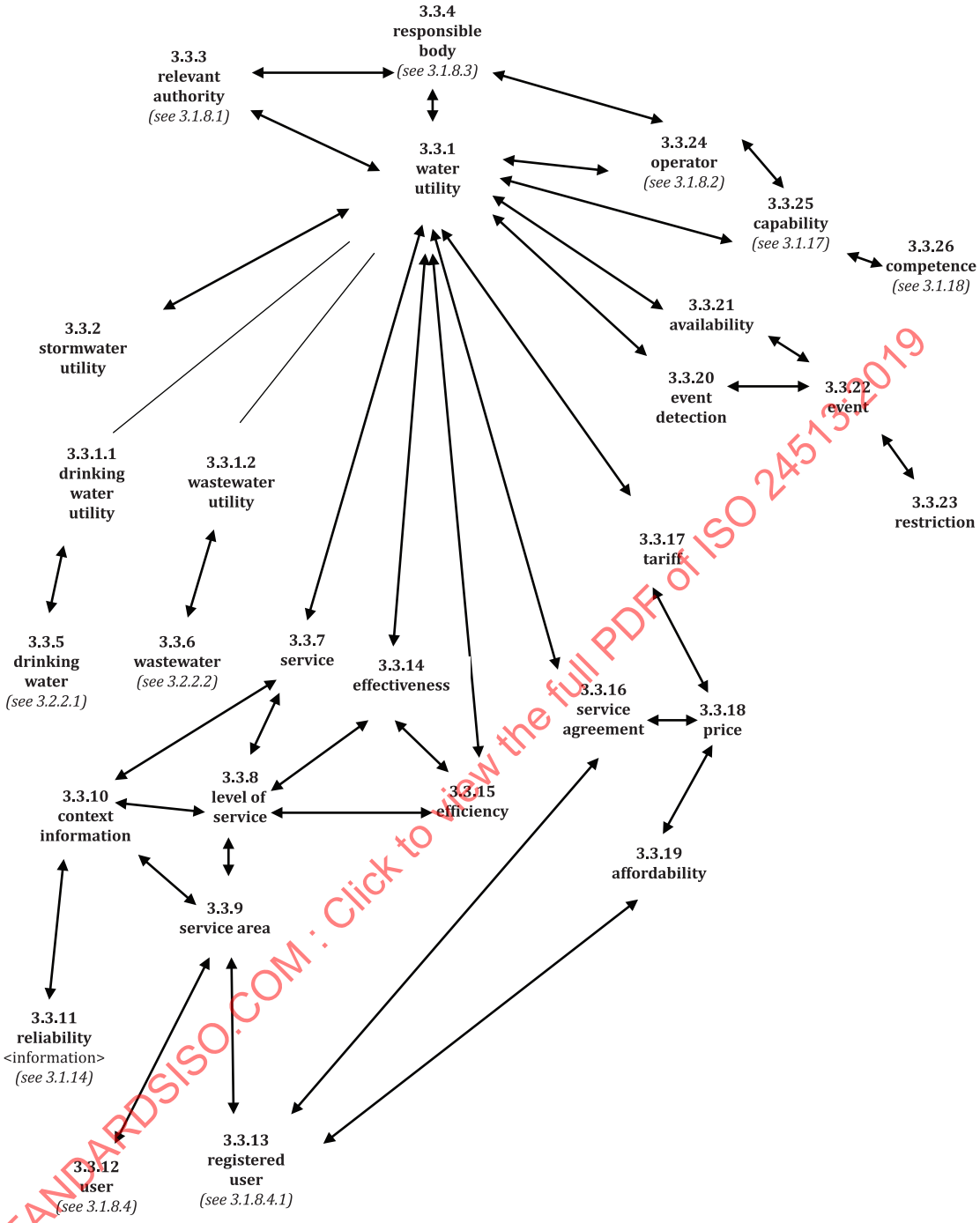


Figure B.6 — 3.3 Concepts related to water utility

Figure B.6 *(continued)*