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Water reuse — Vocabulary

Réutilisation de l'eau — Vocabulaire

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Foreword

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This document was prepared by Technical Committee ISO/TC 282, *Water reuse*.

This second edition cancels and replaces the first edition (ISO 20670:2018), which has been technically revised.

The main changes are as follows:

— certain definitions modified;

— addition of entries 3.1, 3.9, 3.16, 3.31, 3.34, 3.35, 3.51, 3.52, 3.54, 3.55, 3.56, 3.58, 3.61, 3.62, 3.65, 3.67, 3.70, 3.78, 3.82, 3.97, 3.99, 3.100, 3.101, 3.102 and 3.103.

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.

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Introduction

Water reuse is the use of treated wastewater which, in turn, can have as its source surface water, groundwater, desalinated brackish water, desalinated seawater and reuse water, which can include treated wastewater, greywater, rainwater and stormwater.

With economic development, climate change, increases in population and rapid urbanization, water has become a strategic resource, especially in arid and semi-arid regions. Water shortages are considered as one of the most serious threats to sustainable development of society. Although conservation can reduce per capita demand, the remaining supplies can be insufficient to meet overall water demand needs. To address these shortages, reclaimed water is increasingly being considered for use to satisfy water demands that do not require potable water quality, and this strategy has proven useful in increasing the reliability of long-term water supplies in many water-scarce areas of the world.

Reclaimed water is used to satisfy a significant proportion of the water demands in rural and urban areas in many countries, such as agricultural irrigation, landscape irrigation, industrial reuse, groundwater recharge, toilet and urinal flushing, firefighting and fire suppression, ornamental water features and various other urban uses, including direct and indirect potable reuse.

There is a rapidly growing global market for water reuse, which inevitably demands International Standards. Today, many regions of the world face water shortages. The reality of water reuse and the lack of uniform and consistent water quality standards are raising concerns for human health and the environmental and societal implications of water reuse across the world. Consequently, there is a growing need for international standardization from suppliers, users, regulators and all stakeholders. A coherent approach to the description of water reuse activities and the use of water reuse terminology from this document will be of benefit to all users and stakeholders.

The objective of this document is to ensure a coherent approach to the description of water reuse activities and the use of water reuse terminology. Its purpose is to foster mutual understanding common to the different stakeholders.

An important new concept in water reuse is the “fit for purpose” approach, which entails the production of reclaimed water to a quality that meets the needs of the intended end uses.

This document presents terms and definitions in the following areas:

— water reuse of any kind and for any purpose;

— treated wastewater use for irrigation purposes;

— water reuse in urban areas;

— risk and performance evaluation of water reuse systems;

— water reuse for industrial purposes.

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Water reuse — Vocabulary

1 Scope

This document defines terms and definitions commonly used in water reuse standards. It is applicable to all types and sizes of water reuse facilities and systems and to all types of stakeholders involved in water reuse.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

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

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

3.1
advanced oxidation process
AOP
process (3.70) that generates hydroxyl radicals in sufficient quantity to remove organics by oxidation

3.2
advanced treatment
treatment for the removal of total dissolved solids and/or trace *constituents* (3.17) as required for specific water reuse applications [e.g. activated carbon adsorption, reverse osmosis and *advanced oxidation processes* (3.1)]

3.3
agriculture
science or practice of farming, including cultivation of the soil for the growing of crops and the rearing of animals to provide food or other products

3.4
aquifer
subsurface layer or layers of rock or other geological strata of sufficient porosity and permeability to allow either a significant flow of groundwater or the abstraction of significant quantities of groundwater

[SOURCE: Directive 2000/60/EC, Article 2, 11]

3.5
augmentation
process (3.70) of using *reclaimed water* (3.81) to increase the amount of water flowing through a surface body of water or *aquifer* (3.4) (i.e. reservoir, lake, river, stream, wetland and/or groundwater basin) for beneficial purposes

3.6
background water
freshwater (3.36) supplied for domestic, institutional, commercial and industrial use, from which *wastewater* (3.105) is generated

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