TC-282/SC1

TWW reuse for Irrigation activities

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The Standards Institution of Israel – SII
International Water Standardization Program
SC 1 Establishment: "Treated wastewater reuse for irrigation"

In June 2013 the TMB dissolves ISO/PC 253 Treated wastewater re-use for irrigation whose work will be integrated into the new technical committee TC 282.
TC 282/ SC1 - Participation P and O

- Europe 48%
  - Austria (ASI)
  - France (AFNOR)
  - Ireland (NSAI)
  - Portugal (IPQ)
  - Spain (AENOR)
  - United Kingdom (BSI)
  - Czech Republic (UNMZ)
  - Finland (SFS)
  - Germany (DIN)
  - Hungary (NSZT)
  - Sweden (SIS)

- Asia 22%
  - China (SAC)
  - India (BIS)
  - Japan (JISC)
  - Korea Republic of (KATS)

- Middle East 8%
  - Israel (SII)

- South America 9%
  - Argentina (RAM)

- North America 4%

- Africa 9%
  - Kenya (KEBS)
  - Rwanda (RSB)

- P - Members (15)
- O - Members (8)
TC282/SC1 Structure and Projects

TC 282/SC1
“Treated wastewater reuse for irrigation”

WG 1
ISO WD-4 22238
Published in Revision
ISO 16075 1-4

WG 2
Disbanded
Published
ISO 20419:2018
“The Basis of a reuse Project for Irrigation”
- Improving the quality and the use of TWW
- The basis of a reuse project for irrigation
- Influencing factors for TWW irrigation projects: water quality, climate and soil
- Wastewater components
- The different effects of TWW on public health, soil, crops, water sources

“Development of the project”
- Public Health and water quality parameters
- Suggested treated wastewater quality levels for agricultural and urban irrigation use
- Barriers Concept and Types of Barriers
- Barriers needed for irrigation with TWW according to their quality (Examples)
- Public health aspects of flood and furrow irrigation with TWW
- Public health risks for surrounding residents
“Components of a reuse project for irrigation Improving the quality and the use of TWW”

- Storage Reservoir: types and storage time
- Additional treatment: filtration, disinfection, distribution systems, pumping stations, pipelines, accessories
- Design and operation of distribution network to protect drinking water sources: irrigation above drinking water pipelines and principles of cross-connection
- Pressurized Irrigation Systems: sprinkler, micro-irrigation and drip irrigation systems

Monitoring

- Monitoring of the quality of TWW for irrigation: sampling procedure, monitoring plan, test methods
- Monitoring of the irrigated crops
- Monitoring of the soil with regard to salinity: soil sampling
- Receiving Environment Monitoring
- Ground and surface water sampling
ISO 22238
TWW Disinfection and equivalent treatments

The document provides a guideline to the application of various available methods of treated wastewater disinfection for an effective inactivation or removal of pathogens from treated wastewater, which is intended for irrigation purposes. **deals with:**
chemical, physical and biological technologies, principles of operation, and establishment of effective doses to be applied:

- Chemical disinfection
- Chlorine compounds
- Bromine compounds
- Ozone compound
- UV disinfection
- Membrane disinfection

**Design & monitoring**
**Advantages & disadvantages**
**Environmental effects**

Disinfection at different locations in the wastewater reuse system
(wastewater treatment plant, distribution system, point of use)
The document provides guidance on how to protect and adjust irrigation equipment to TWW quality in respect to physical, chemical and biological parameters.

The document includes recommendations for:

- pumping stations,
- filtration,
- water network systems,
- irrigation equipment: emitters (drippers, sprinklers, mini sprinklers, micro sprinklers, sprayers and irrigation machine (sprinklers and sprayers), physical treatment of irrigation equipment, and chemical treatment of irrigation equipment.
Thank you!