

ISO/TR 24589-1:2024-12 (E)

Examples of good practice for the management of assets of water supply and wastewater systems - Part 1: Water supply

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principal aspects	1
4.1 Objectives.....	1
4.1.1 Water utility with multiple waterworks and distribution networks.....	1
4.1.2 Water distribution network.....	3
4.1.3 Waterworks.....	4
4.2 Strategies.....	10
4.2.1 Maintenance strategy.....	10
4.2.2 Renewals decision.....	11
4.2.3 Inspection strategy of water supply network.....	11
4.3 Structuring the process.....	12
4.3.1 Initial steps for the management of assets of water distribution systems.....	12
4.3.2 Linkage of tool or activity to specific utility objective.....	14
4.3.3 Flowchart to sustain the asset management plan.....	15
5 Investigation	17
5.1 Non-destructive pipe condition investigation techniques.....	17
5.2 High density polyethylene (HDPE).....	17
5.3 Hydraulic performance.....	19
5.4 Condition assessment framework for drinking water storage tanks – prioritisation based on visual inspection.....	21
6 Assessment	24
6.1 Degradation models based on service life.....	24
6.2 Assessment of maturity of operations to define action plans.....	24
6.3 Criticality.....	25
6.3.1 Networks: simplified criticality map base on the impact of a failure.....	25
6.3.2 Treatment plant: implementation of simplified and monetized FMECA (failure mode, effects and criticality analysis).....	26
6.4 Likelihood of failure: multicriteria evaluation for networks.....	28
7 Implementation	30
7.1 Prioritization of works.....	30
7.2 Sustainable field works.....	30
8 Operation and maintenance	30
8.1 Planned water leakage prevention action.....	30
8.1.1 General.....	30
8.1.2 Planned work.....	31
8.1.3 On-call service.....	35
8.2 Energy monitoring and optimisation.....	35
8.3 Monitoring and control.....	36
8.4 Monitoring.....	37

9	Rehabilitation	37
9.1	Network renewal plan	37
9.2	CAPEX optimization tool	39
9.3	Plant renewal plan.....	39
Annex A (informative) Summary of examples of good practices for asset management of water supply systems		40
Bibliography		43