PD CEN/TS 13714:2013

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Characterization of sludges — Sludge management in relation to use or disposal

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The UK participation in its preparation was entrusted to Technical Committee EH/5, Sludge characterization.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

Characterization of sludges - Sludge management in relation to use or disposal

Caractérisation des boues - Gestion des boues en vue de leur valorisation ou de leur élimination

Charakterisierung von Schlämmen - Management von Schlamm zur Verwertung oder Beseitigung

This Technical Specification (CEN/TS) was approved by CEN on 27 August 2012 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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Foreword

This document (CEN/TS 13714:2013) has been prepared by Technical Committee CEN/TC 308 “Characterization of sludges”, the secretariat of which is held by AFNOR.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes CEN/TR 13714:2010.

This document gives recommendations for good practice, but existing national regulations remain in force.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

The purpose of this Technical Specification is to outline the management of sludges both upstream and downstream of the treatment process to ensure that it is suitable for the outlets available. Sludge is the inevitable residue of treating raw potable water and municipal and industrial wastewaters. This Technical Specification refers to all types of sludge covered by CEN/TC 308 including sludges from treating industrial wastewater similar to urban wastewater and from water supply treatment work plants. In considering the likely quality of sludges, it should be remembered that municipal wastewater sludges are composed of materials that have already been disposed of and are consequently likely to be more variable than many industrial sludges that arise from sourced materials or water treatment sludges arising from surface water or groundwater.

The quality of the sludge should match the requirements of the outlets whether that be to land, thermal processing or as a last resort landfill. As a general rule a high quality sludge is likely to be acceptable to a large range of outlets giving greater operational flexibility. High quality sludges are likely to be suitable for those outlets associated with maximum sustainability and minimum environmental pollution. The management of sludges will become increasingly more complex as environmental standards become more stringent and if outlets become more constrained by legislation and public attitudes.

Sludge quality is central to the development of good practice for sludge production in relation to its destination (use or disposal). Sludge quality depends on the composition of the upstream materials and the type of treatment including post treatment storage.

Sludge quality can be characterised by its different properties; biological, chemical and physical:

a) biological properties include the microbiological stability of the organic matter in the sludge, odour and hygienic characteristics;

b) chemical properties include:

   1) content of potentially toxic substances (PTSs) which include inorganic (metals, metalloids, and other minerals), and organic pollutants;

   2) concentrations and form (availability) of plant nutrients and the main components of the sludge;

c) physical properties include whether liquid, semi-solid (pasty-like) or solid, and aesthetic factors associated for instance with removal of unsightly debris by effective screening. Calorific value is a quality criterion if the sludge is to be incinerated or used as a fuel. Other physical properties include, thickenability and dewaterability.

The consistency of these different properties is a critical aspect of the sludge quality and of the ability to determine its end destination (use or disposal).

Standard methods should be used where these are available to measure the quality parameters of sludge. There is a continuing need to develop a full set of standardised and harmonised methods which the manager and operator can use to evaluate the quality of sludge for treatment process design and operational purposes.

This Technical Specification considers the management of sludges against the waste hierarchy, the management of sludge quality and an option evaluation process to determine the options available.

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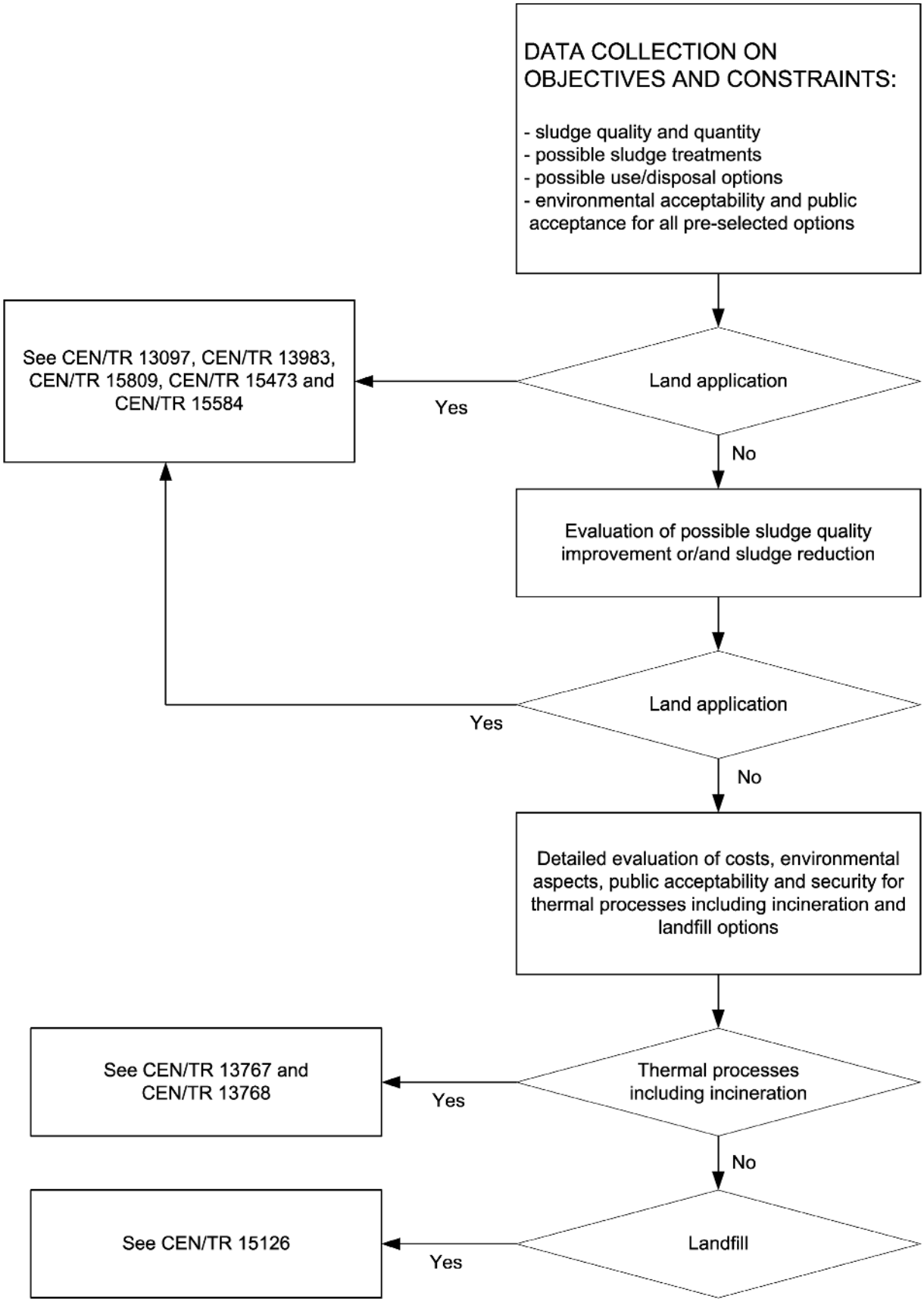

Figure 1 — A basic scheme for deciding on sewage sludge use/disposal options and the relevant CEN/TC 308 guidance documents

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1 Scope

This Technical Specification gives guidance for dealing with the production and control of sludge in relation to inputs and treatment and gives a strategic evaluation of recovery, recycling and disposal options for sludge according to its properties and the availability of outlets.

This Technical Specification is applicable for sludges from:

— storm water handling;

— night soil;

— urban wastewater collecting systems;

— urban wastewater treatment plants;

— treating industrial wastewater similar to urban wastewater (as defined in Directive 91/271/EC [1]);

— water supply treatment plants;

but excluding hazardous sludges from industry.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1085:2007, *Wastewater treatment — Vocabulary*

EN 12832:1999, *Characterization of sludges — Utilization and disposal of sludges — Vocabulary*

3 Terms and definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1085:2007 and EN 12832:1999 and the following apply.

3.1.1
industrial wastewater
trade wastewater
trade effluent
wastewater discharge resulting from any industrial or commercial activity

3.1.2
urban wastewater
municipal wastewater
wastewater from municipal areas consisting predominantly of domestic wastewater and which may additionally contain surface water, infiltration water, trade or industrial wastewater

3.2 Abbreviated terms

The following abbreviated terms, necessary for the understanding of this specification, apply:

— BOD: Biochemical Oxygen Demand

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