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Karakterizacija odpadkov - Preverjanje na kraju samem

Characterization of waste - On-site verification

Charakterisierung von Abfällen - Vor-Ort-Prüfung

Caractérisation des déchets - Vérification in situ

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Foreword

This document (CEN/TR 16130:2011) has been prepared by Technical Committee CEN/TC 292 “Characterization of waste”, the secretariat of which is held by NEN.

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.

Introduction

According to the Landfill Directive (1999/31/EC) and Landfill Decision (2003/33/EC) general characterisation and testing of waste should be based on the following three-level hierarchy:

Level 1: Basic characterisation. This constitutes a thorough determination, according to standardised analysis and behaviour-testing methods, of the short and long-term leaching behaviour and/or characteristic properties of the waste.

Level 2: Compliance testing. This constitutes periodical testing by simpler standardised analysis and behaviour-testing methods to determine whether a waste complies with permit conditions and/or specific reference criteria. The tests focus on key variables and behaviour identified by basic characterisation.

Level 3: On-site verification. This constitutes rapid check methods to confirm that a waste is the same as that which has been subjected to compliance testing and that which is described in the accompanying documents. It may merely consist of a visual inspection of a load of waste before and after unloading at the landfill site.

A particular type of waste should normally be characterised at Level 1 and pass the appropriate criteria in order to be accepted on a site specific reference list. In order to remain on this list, a particular type of waste should be tested at regular intervals (e.g. annually) be tested at Level 2 and pass the appropriate criteria. Each waste load arriving at the gate of a landfill should be subjected to Level 3 verification. Procedures for basic characterisation and compliance testing are defined in the Landfill Decision, as they have to guarantee the compliance with limit values. Several standards have been developed so far for the first two steps of waste characterisation including sampling, sample preparation, extraction steps and analysis of waste samples. This Technical Report describes the procedures for on-site verification. Testing for on-site verification is left rather open in the Landfill Decision:

On-site verification

Each load of waste delivered to a landfill should be visually inspected before and after unloading. The required documentation should be checked.

For waste deposited by the waste producer at a landfill in his control, this verification maybe made at the point of dispatch.

The waste maybe accepted at the landfill, if it is the same as that which has been subjected to basic characterisation and compliance testing and which is described in the accompanying documents. If this is not the case, the waste should not be accepted. Member States should determine the testing requirements for on-site verification, including where appropriate rapid test methods. Upon delivery, samples shall be taken periodically. The samples taken should be kept after acceptance of the waste for a period that will be determined by the Member State (not less than one month; see Article 11(b) of the Landfill Directive).

On-site verification will not only be performed at landfill sites but also at every other site, where waste is handled, sorted or treated. In this TR general advice for on-site verification including sampling and sample preparation and possible extraction procedures are described. For the testing of the waste normally easy to handle and fast methods are necessary. The criteria for selection of test methods are described in prEN 16123.

1 Scope

This Technical Report gives guidance on the strategy for on-site verification and quality control of waste at landfills. It describes methods of visual inspection, control of documents and choice of necessity of testing by either screening methods or reference methods. It gives reference on sampling, sample preparation and extraction procedures.

The same procedures may be useful for on-site verification and quality control of waste at treatment plants.

2 Normative references

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

EN 14899, *Characterization of waste — Sampling of waste materials — Framework for the preparation and application of a Sampling Plan*

EN 15002, *Characterization of waste — Preparation of test portions from the laboratory sample*

CEN/TR 15310-2, *Characterization of waste — Sampling of waste materials — Part 2: Guidance on sampling techniques*

CEN/TR 15310-3, *Characterization of waste — Sampling of waste materials — Part 3: Guidance on procedures for sub-sampling in the field*

CEN/TR 15310-4, *Characterization of waste — Sampling of waste materials — Part 4: Guidance on procedures for sample packaging, storage, preservation, transport and delivery*

CEN/TR 15310-5, *Characterization of waste — Sampling of waste materials — Part 5: Guidance on the process of defining the sampling plan*

prEN 16123, *Characterization of waste — Guidance on selection and application of screening methods*

EN ISO 5667-15, *Water quality — Sampling — Part 15: Guidance on the preservation and handling of sludge and sediment samples (ISO 5667-15:2009)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply:

3.1
on-site verification
third level of inspection according to the Landfill Directive and Landfill Decision to ensure that the waste accepted at a landfill is the same as described in the accompanying documents and that it is in accordance with the basic characterisation and/or compliance testing

3.2
screening method
method to quickly obtain data on sample characteristics

3.3
reference method
analytical method with known performance data and usually standardised and/or stipulated by law

4 Principle

This Technical report gives guidance on on-site verification by describing procedures for visual inspection, control of documents and periodically taking and analysing of samples.

By appropriate checking of the waste before acceptance it shall be ensured that waste is not accepted that cannot be treated in or disposed at the specific site and that safety precautions are met.

5 Procedure

5.1 Control of documents

Documentation for waste acceptance has to include the following items (see 1013/2006/EC):

— Control of the movement documents:

  — Trans-border movements/shipments EU waste movement documents and/or

  — country-specific movement documents;

— Information and documentation related to notification and/or other country-specific records of proper waste management;

— Results of basic characterisation and/or compliance testing for landfills or treatment plants.

All documents presented have to be checked on their validity and on their plausibility. In addition it shall be checked that all documents required by national regulations are present. This control shall be documented in a traceable way therefore the use of a routing slip is recommended.

All information describing the mass and kind of waste as well as the storage location or kind of treatment and destination of waste accepted at the landfill or treatment plant has to be archived.

5.2 Determination of quantity

The quantity of waste accepted at the landfill or treatment plant has to be determined and documented. Normally the determination of the mass of the waste transported to a waste site is performed at the entrance using a weighbridge. In many cases the mass of the waste accepted at the waste site is electronically recorded.

If weighing is not feasible, volume determination may be used to enable calculation of the mass.

5.3 Visual inspection

Every batch of waste delivered to the waste site has to be inspected by visual inspection before and after unloading. During visual inspection colour, shape, grain size and consistency of the waste will be inspected. If detected, characteristic smell will be documented.

A first visual inspection shall be done at the entrance of the waste site and helps to identify the waste and compare the main physical characteristics with accompanying documents.

A second visual inspection shall be done at the point of deposit of the waste. Usually this inspection will be done during and/or after unloading of the waste.

NOTE For landfills it is recommended to spread the waste to check for irregularities before land filling.

The visual inspection includes the control of the main characteristics of the waste as described in the accompanying documents and gives indications if mixing with waste not allowed in the specific plant (e.g. hazardous waste) has been done.

The check by visual inspection will not require any sampling. It is required that the inspector has sufficient expertise on usual colour, consistency, grain size, and appearance of the waste to be inspected to enable a meaningful verification.

The owner of the waste site has to make sure, that the persons performing the visual inspections have sufficient training on practical evaluation of waste.

For a particular landfill, a handbook with specific information (including pictures) on the commonly expected types of waste is recommended.

5.4 Safety check

5.4.1 General

The control procedures of waste during on-site verification should include all technical inspections necessary for safety of employees (e.g. protection against dust, gases, cyanides; hygienic aspects). If there are special technical requirements for the treatment of waste, these characteristics may be checked also during on-site verification.

5.4.2 Control of radiation

Waste treatment plants and landfills can be equipped at the entrance with a monitoring system for radiation measurement of the waste loads.

5.4.3 Control of explosives and flammables

In case of suspicion control on the presence of explosives and/or flammables is recommended to avoid safety endangers.

5.5 Sampling plan

5.5.1 General

A sampling plan according to EN 14899 has to be developed that follows national legislation and the special need for on-site verification at the specific waste site. It needs to be applicable for the type of waste taking into account the heterogeneity, grain size etc. of the waste.

The responsible person has to decide if a representative sample has to be taken (e.g. in case of identification of waste) or if spot sampling is needed (e.g. in case of irregularities) and adapt the sampling plan accordingly.

Reasons for sampling:

— Routine control (e.g. every 500 tons or 2 000 tons or every 50th delivery);

— Identification of waste loads;

— Checking of waste due to obvious irregularities, found during visual inspection or control of documents, suspicion of contamination;

— Reserve samples.