Irish Standard
I.S. EN 16348:2013

Gas infrastructure - Safety Management System (SMS) for gas transmission infrastructure and Pipeline Integrity Management System (PIMS) for gas transmission pipelines - Functional requirements

I.S. EN 16348:2013

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie

W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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English Version

Gas infrastructure - Safety Management System (SMS) for gas transmission infrastructure and Pipeline Integrity Management System (PIMS) for gas transmission pipelines - Functional requirements

Infrastructures gazières - Système de management de la sécurité (SMS) pour infrastructures de transport de gaz et système de management de l'intégrité des canalisations (PIMS) pour canalisations de transport de gaz - Exigences fonctionnelles

Gasinfrastruktur - Sicherheitsmanagementsystem (SMS) für die Gastransportinfrastruktur und Rohrleitungsintegritätsmanagementsystem (PIMS) für Gastransportleitungen - Funktionale Anforderungen

This European Standard was approved by CEN on 8 May 2013.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 16348:2013) has been prepared by Technical Committee CEN/TC 234 “Gas infrastructure”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2013, and conflicting national standards shall be withdrawn at the latest by December 2013.

This document supersedes CEN/TS 15173:2006 and CEN/TS 15174:2006.

This European standard has been drafted by merging the contents of the CEN/TS 15173 “Gas supply systems – Frame of reference regarding pipeline integrity management system (PIMS)” and CEN/TS 15174 “Gas supply systems – Guidelines for safety management systems for natural gas transmission pipelines”. It aims to be a frame of reference for a transmission system operator (TSO) to develop and maintain a management system for ensuring a safe and reliable gas transmission infrastructure.

This standard presents all the activities to be carried out to implement a safety management system (SMS) covering the complete TSO's infrastructure. A section is specifically dedicated to the integrity management of transmission pipelines.

This standard is based on the state of the art management and maintenance practices of TSOs as these have proved historically to maintain high levels of safety, including improvements.

The structure adopted by this standard follows the structure implemented by the standard EN ISO 14001. This standard requires the TSO to develop and implement a management system for the safety and the reliability of a gas transmission infrastructure with the same basic principle: plan, do, check and act (PDCA).

Two main goals have been identified to achieve this principle. These are to have:

— a management system specific for the gas transmission infrastructure activity, but aligned with the most recognised standards for management systems;

— the possibility to integrate the SMS with other systems used in the organisation where they already exist.

All assets within a gas transmission system require an integrity management system to ensure the safe and reliable operation of the infrastructure. The section on Pipeline Integrity Management System (PIMS) within this document (Clause 5) addresses specific issues related to maintaining the integrity of the gas transmission pipelines. The reason for having a PIMS is to manage the safety aspects associated with operating underground transmission pipelines, which can be located in an open environment where the public can access the pipeline route.

This standard describes the resources, information systems and technical and organisational activities, for which the TSO is responsible and which are needed to prevent incidents and mitigate their consequences.

These resources and activities are implemented according to the technical and economic requirements specific to each TSO.

Through this SMS, the TSO and its stakeholders are ensured of a safe gas transmission infrastructure. The SMS enables the transmission system operator to comply with its policy and

objectives to manage safety aspects. The policy and the objectives take into account legal requirements and other requirements to which TSO subscribes.

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.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: 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.

1 Scope

This European Standard specifies requirements which enable a Transmission System Operator (TSO) to develop and implement a safety management system including an integrity management system specifically for pipelines.

The SMS is applicable to infrastructure for the transmission of processed, non-toxic and non-corrosive natural gas according to EN ISO 13686 and injected bio methane, where:

— the pipeline elements are made of unalloyed or low-alloyed carbon steel;

— the pipeline elements are joined by welds, flanges or mechanical joints.

NOTE 1 In this standard, the term “natural gas” includes injected bio methane or other non-conventional forms of natural gas, e.g. shale gas.

Gas infrastructures for the transmission of natural gas covered by this standard are:

— pipelines onshore including valve stations;

— compressor stations;

— measuring and pressure reduction stations.

Gas distribution assets as well as LNG plants, terminals, underground storages are excluded from the scope of this standard.

Occupational health and safety is excluded from this European standard because it is covered by national legislation and other European and/or international standards, e.g. OHSAS 18001.

This European standard specifies requirements on a general level. The referenced documents given in Clause 2 “Normative references” give more detailed requirements for some of the assets listed above.

This European Standard is intended to be applied in association with these national standards and/or codes of practice setting out the above-mentioned basic principles.

In the event of conflicts in terms of more restrictive requirements in national legislation/regulation with the requirements of this standard, the national legislation/regulation takes precedence as illustrated in CEN/TR 13737 (all parts).

NOTE 2 CEN/TR 13737 (all parts) contains:

— clarification of relevant legislation/regulations applicable in a country;

— if appropriate, more restrictive national requirements;

— national contact point for the latest information.

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 1594, *Gas supply systems - Pipelines for maximum operating pressure over 16 bar - Functional requirements*

EN ISO 13686, *Natural gas - Quality designation (ISO 13686)*

3 Terms and definitions

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

3.1
transmission system operator
TSO
natural or legal person who carries out the function of transmission and is responsible for operating, ensuring the maintenance of, and, if necessary, developing the transmission system in a given area and, where applicable, its interconnections with other systems, and for ensuring the long-term ability of the system to meet reasonable demands for the transport of gas

Note 1 to entry This definition is identical with that given in the EU Directive on the common gas market 2009/73/EU.

3.2
inspection
the process of measuring, examining, testing, gauging or otherwise determining the status of items of the pipeline system or installation and comparing it with the applicable requirements

Note 1 to entry This definition is identical with that given in EN 1594.

3.3
maintenance
combination of all technical and associated administrative actions intended to keep an item in, or restore it to, a state in which it can perform its required function

Note 1 to entry This definition is identical with that given in EN 1594.

3.4
operation
activities to control the gas flow through operation of compressors, regulators, valves, etc. under the conditions that gas pressure, gas quality and gas temperature (safety) limits set by the operator and/or standards are not exceeded