

English Version

**Gas supply systems - Guideline for safety management systems  
for natural gas transmission pipelines**

Systèmes d'alimentation en gaz - Ligne directrice pour les  
systèmes de management de la sécurité des canalisations  
pour le transport de gaz naturel

Gasversorgungssysteme - Leitfaden für  
Sicherheitsmanagementsysteme für  
Erdgastransportleitungen

This Technical Specification (CEN/TS) was approved by CEN on 25 June 2005 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.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: rue de Stassart, 36 B-1050 Brussels**

## Contents

Page

Foreword.....	3
Introduction .....	4
1 Scope .....	5
2 Normative references .....	5
3 Management System Matrix .....	5
3.1 Guidance for the user.....	5
3.2 Matrix .....	6
3.2.1 Management system .....	6
3.2.2 Hazard identification .....	15
3.2.3 Pipeline engineering.....	16
3.2.4 Performance measurement .....	36
Bibliography .....	41

## Foreword

This Technical Specification (CEN/TS 15174:2006) has been prepared by Technical Committee CEN/TC 234 "Gas Supply Systems", the secretariat of which is held by DIN.

There is a complete suite of functional standards prepared by CEN/TC 234 "Gas Supply" to cover all parts of the gas supply system from the input of gas to the transmission system up to the inlet connection of the gas appliances, whether for domestic, commercial or industrial purposes.

In preparing this Technical Specification a basic understanding of Quality Management Systems and gas supply systems by the user has been assumed.

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

## Introduction

This Technical Specification describes the management of pipeline systems. It covers design, construction, commissioning, operation, maintenance and abandonment, all in order to provide a pipeline system for the safe and secure transmission of gas.

The text of this Technical Specification is based upon the existing documents EN ISO 14001 (Environmental Management Systems), EN 1594 (Pipelines for maximum operating pressures over 16 bar – Functional requirements) and CEN/TS 15173 (Frame of reference regarding Pipeline Integrity Management System). Among the EN ISO standards, EN ISO 14001 appears to be the most appropriate reference for a Safety Management System for natural gas transmission pipelines no reference is given to EN ISO 9000 series.

Not all the references specifically cover pipeline management. However they give a good overall guide as far as the topic in question is concerned.

## 1 Scope

This Technical Specification is applicable to pipelines for the transmission of processed, non-toxic and non-corrosive natural gas according to ISO 13686 in on land gas supply systems, where:

- the pipeline elements are made of unalloyed or low-alloyed carbon steel;
- the pipeline elements are joined by welds, flanges or mechanical couplings;
- the pipeline is not located within commercial or industrial premises as an integral part of the industrial process on these premises except for any pipelines and facilities supplying such premises.

This Technical Specification applies both to new and existing pipelines and covers pipelines which begin after the gas producer's metering station and ends at the boundary of the delivery station on the premises of the customer. Installations like Under Ground Storage, Compressor stations and LNG plants are excluded from this scope.

## 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 1594:2000, *Gas supply systems - Pipelines for maximum operating pressure over 16 bar - Functional requirements*

EN ISO 14001:2004, *Environmental management systems – Requirements with guidance for use (ISO 14001:2004)*

CEN/TS 15173:2006, *Gas supply systems - Frame of reference regarding Pipeline Integrity Management System (PIMS)*

## 3 Management System Matrix

### 3.1 Guidance for the user

This clause contains important notes for the user of this Technical Specification. Understanding provisions below are necessary for the proper interpretation of this Technical Specification.

This Technical Specification is intended for use by individuals who possess a basic appreciation of quality management, environmental management, pipeline operation, maintenance and integrity issues.

This Technical Specification proposes the topics as given in the matrix in 3.2 to be included in a Safety Management System.

The structure is a general framework that is meant to cover general needs of pipeline operators with special emphasis on safety aspects of pipeline management (e.g. public safety, pipeline condition monitoring, etc.). Where there are preferences over either of the topics included or the structure itself, it is at the user's discretion to make the necessary adjustments according to specific needs.

The majority of the 18 topics contain more than one reference. The user may see this as duplication. The aim of this Technical Specification was not to make a prioritised selection of the "best" references quoted under each topic, but rather to leave at the user's discretion to make his own choice.