

**PROCEDURAL ACT No. 2007/04
OF THE PERMANENT HIGH LEVEL GROUP
OF THE ENERGY COMMUNITY**

**ON THE LIST OF THE
GENERALLY APPLICABLE STANDARDS FOR GAS AND
ELECTRICITY**

The Permanent High Level Group of the Energy Community,

Having regard to the Treaty Establishing the Energy Community, and in particular Articles 21 to 23, and 53 thereof,

Whereas the Ministerial Council adopted on 29 June 2007 the list of Generally Applicable Standards for gas and electricity and conferred to the Permanent High Level Group the task to adopt the requisite procedural act,

HAS ADOPTED THIS PROCEDURAL ACT:

Article 1

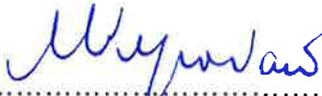
By 29 June 2008 at the latest, Contracting Parties shall adopt development plans to bring their electricity and gas sectors into line with the Generally Applicable Standards as adopted on 29 June 2007 by the Ministerial Council and presented in Annex of this Procedural Act.

Article 2

This Procedural act enters into force on the day of its adoption.

Done in Vienna on 17 October 2007

For the PHLG


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Presidency

ANNEX
To the
PROCEDURAL ACT No. 2007/04

Reg.No: MC2/4-2/21-05-07ECS

GENERALLY APPLICABLE STANDARDS

- ELECTRICITY -

Background

As a part of the Treaty establishing the Energy Community (Title II – The Extension of the *acquis communautaire*, Chapter VI – Compliance with generally applicable standards of the European Community), Articles 21-23 specify the following obligations:

- within one year of the date of entry into force of the Treaty, the Secretariat shall draw up a list of the Generally Applicable Standards of the European Community, to be submitted to the Ministerial Council for adoption; and
- the Contracting Parties shall, within one year of the adoption of the list, adopt development plans to bring their Network Energy sectors into line with these Generally Applicable Standards of the European Community.

Purpose

The purpose of this paper is to propose to the Contracting Parties¹ a list of Generally Applicable Standards of the European Community relating to electricity.

Objective

Generally Applicable Standards of the European Community refer to any technical system standard that is applied within the European Community, and is necessary for operating network systems safely and efficiently, including aspects of transmission, cross-border connections, modulation and general technical system security standards issued where applicable via:

- the European Committee for Standardization (CEN) – web link to the On-line Catalogue of European Standards <http://www.cen.eu/catweb/cwen.htm>;
- the European Committee for Electrotechnical Standardization (CENELEC) – web link to the the CENELEC database general information on CENELEC standardization activities <http://www.cenelec.org/Cenelec/Code/Frameset.aspx>
- and similar normation bodies or as issued by the
 - Union for the Co-ordination of Transmission of Electricity (UCTE) – web link to the UCTE Operation Handbook http://www.ucte.org/ohb/cur_status.asp

¹ Bulgaria and Romania are EU Member States since 1 January 2007 and respectively no longer Contracting Parties. However, as important players on the regional market, which have been Contracting Parties within the second half of 2006, some information for them is also provided.

- and the European Association for the Streamlining of Energy Exchanges (Easeegas) – web link to the Approved Common Business Practices <http://www.easeeg-gas.org/common-business-practices/approved-CBPs>

for common rule setting and business practices.

Steps

- ECS to draw up a list of Generally Applicable Standards in the European Community on the basis of information provided in previously given web pages by 30 April 2007;
- Contracting Parties to provide comments on content and acceptability of the list drawn by the ECS by 15 May 2007;
- ECS to finalise the list on the basis of comments given by the Contracting Parties by 30 May 2007 and submit it in due time for the PHLG and MC June 2007 meetings.

Approach

In the electricity field, a list of Generally Applicable Standards in the European Community is divided into two parts: 1) the UCTE operation principles and rules for the transmission system operators in continental Europe; and 2) a selection of the CEN and CENELEC standards applicable in the area of power engineering and energy management. Main characteristics of these two parts, including proposals for their inclusion in a list of Generally Applicable Standards, are described hereafter.

Proposal on the UCTE Operation Handbook

The main intention of the relevant technical rules and recommendations, such as those contained in the UCTE Operation Handbook, is to provide support for the technical operation of the interconnected network, thus contributing to meeting the need for continued operation of the network in the event of system failure at an individual point or points in the network and minimise the costs related to mitigating such supply disruption. Therefore, the Contracting Parties, through their representatives in the Permanent High Level Group, are asked to contact the member companies to the UCTE and request a short report (1-2 pages) on activities related to implementation and follow-up of the Policies from the UCTE Operation Handbook. Depending on the findings from such report, the Contracting Parties shall adopt development plans to bring their power systems into line with the requirements from the UCTE Operation Handbook.

Proposal on adoption of a selection of the CEN/CENELEC standards

With exception of Montenegro and UNMIK (according to publicly available web based information), all other Contracting Parties have an institutionalised work on standardisation which has been conducted under umbrellas of CEN and CENELEC. Standardisation bodies of the Contracting Parties operate through their technical committees, working groups and task forces dedicated to a number of areas in electric power engineering. The Contracting Parties, through their representatives in the Permanent High Level Group, are asked to contact the institutions in charge with standardisation and request a short report (1-2 pages) on adoption of a selection of the standards given hereafter. Depending on the findings from such report, the Contracting Parties shall adopt development plans to align with the requirements from these standards.

The UCTE Operation Handbook

The UCTE has developed a number of technical and organisational rules and recommendations in the past that constitute a common reference for smooth operation of the power system. Strong interconnections in the UCTE grid require common understandings for grid operation, control and security in terms of fixed technical standards and procedures. They are comprised in the UCTE Operation Handbook, an up-to-date collection of operation principles and rules for the transmission system operators in continental Europe. A reference to member companies from the Contracting Parties to the UCTE is provided in Table 1.

Table 1: Member companies from the Contracting Parties to the UCTE

Contracting Party	Abbreviation of member companies	Member companies
AL Albania		Synchronously connected, but not a member
BA Bosnia and Herzegovina	▪ <u>ISO BiH</u>	Nezavisni operator sustava u Bosni i Hercegovini
BG Bulgaria	▪ <u>ESO EAD</u> *	Electroenergien Sistemen Operator EAD
HR Croatia	▪ <u>HEP-OPS</u>	HEP-Operator prijenosnog sustava d.o.o.
ME Montenegro	▪ <u>EPCG</u>	Elektroprivreda Crne Gore
MK The former Yugoslav Republic of Macedonia	▪ <u>MEPSO</u>	Macedonian Electricity Transmission Company
RO Romania	▪ <u>Transelectrica</u>	C.N. Transelectrica S.A.
RS Serbia	▪ <u>JP EMS</u>	JP Elektromreža Srbije
UNMIK	/	Synchronously connected (within Serbia), but not an independent member

* The transfer of UCTE membership from NEK EAD to ESO EAD will be approved by the next Assembly meeting

The main objective of the UCTE Operation Handbook as a comprehensive collection of all relevant technical standards and recommendations is to provide support to the technical operation of the UCTE interconnected grid, including operation policies for generation control, performance monitoring and reporting, reserves, security criteria and special

operational measures. Standards define rules that are fixed and binding for the addressees, subject to the specific situation. Standards are usually the core part of a policy.

The basic subject of the Operation Handbook is to ensure the interoperability among all TSOs connected to the synchronous areas. Standards for network access of customers, network tariffs, accounting, the commercial part of unintentional deviations, billing procedures and market rules as well as other standards that may be set by national Grid Codes, laws or contracts are not within the scope of the UCTE Operation Handbook.

The UCTE Operation Handbook shall support consultation and provide assistance to different parties in issues of system operation, such as to

- Transmission System Operators (TSOs) / Grid Operators, Co-ordination Centres. Every TSO in the UCTE interconnected network has declared to follow the technical standards and procedures that are comprised in the UCTE Operation Handbook. It therefore serves as the reference (“legislation”) for the grid operation by the TSOs and guarantees the UCTE’s quality and reliability standards.
- Generation Companies (GENCOs). Every party operating a generating unit in the UCTE interconnected network makes use of the transmission network and may have to deliver products for the provision of system services that are indispensable for secure and stable grid operation. The UCTE Operation Handbook sets standards for the essential requirements and capabilities regarding generation that contribute to the operation of the grid by the TSOs.
- Other associations, traders, customers, politicians and decision makers. Operation of an interconnected transmission system is bound to physical principles and technical constraints, which differ significantly from other well-known technical or financial systems. The UCTE Operation Handbook explains these differences and characteristics in a transparent manner to the public for a better understanding. It can also serve as a general reference document.

Following the Articles of Association of the UCTE, as they have been signed by all members, the standards and recommendations of the UCTE Operation Handbook were developed as binding for all members (including associated members) of the UCTE and their operation of the grid. All standards and recommendations of the UCTE Operation Handbook are written to be straightforward and unmistakable for the processes of secure operation of the UCTE synchronous area(s).

The UCTE Operation Handbook has three parts: 1) General part; 2) Policies; 3) Appendices. Content of these three parts is given hereafter.

1) General part

ID	Title	Version/Date	Status
I	Introduction (link)	v2.5/20.07.04	Final
A.	UCTE’s basic needs for the Operation Handbook		version
B.	Target audience for the Operation Handbook		
C.	Main characteristics of the Operation Handbook		
D.	Main scope of the Operation Handbook		
E.	Basic structure of the Operation Handbook		
F.	Guide for handbook readers		
G.	Procedure for handbook development		

- H. Table of handbook policies and appendices
- I. UCTE system overview
- J. Contacts and links

G Glossary (link) A. Glossary of Terms B. List of Acronyms C. List of Units	v2.2/20.07.04 Final version
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2) Policies

ID	Title	Version/Date	Status
P1	Load-Frequency Control and Performance (link) A. Primary Control B. Secondary Control C. Tertiary Control D. Time Control E. Measures for Emergency Conditions	v2.2/20.07.04	Final version
P2	Scheduling and Accounting (link) A. Scheduling B. Online Observation C. Accounting	v2.2/20.07.04	Final version
P3	Operational Security (link) A. N-1 Security (operational planning and real-time operation) B. Voltage control and reactive power management C. Network faults clearing and short circuit currents D. Stability E. Outages scheduling F. Information exchanges between TSOs for security of system operation	v1.3/20.07.04	Final version
P4	Co-ordinated Operational Planning (link) A. Outage Scheduling B. Capacity Assessment C. Capacity Allocation D. Day Ahead Congestion Forecast E. Congestion Management	v2.0/03.05.06	Final version
P5	Emergency Procedures (link)	v1.0/03.05.06	Final. version
P6	Communication Infrastructure (link) A. The EH Network, Architecture and Operation B. Real Time Data Collection and Exchange C. File Transfer data Exchange D. E-Mail on the Electronic Highway E. Information Publication in Hypertext on EH F. Procedures for future Services on EH G. Non-EH communication among TSOs	v0.9/03.05.06	Final version

<p>P7 Data Exchanges (link) A. Code of conduct and generic rules to handle the data</p>	<p>v0.4/03.05.06 Final version</p>
<p>P8 Operational Training</p>	<p>Projected</p>

3) Appendices

ID	Title	Version/Date	Status
A1	<p>Load-Frequency Control and Performance (link) A. Primary Control B. Secondary Control C. Tertiary Control D. Time Control E. Measures for Emergency Conditions</p>	v1.9/20.07.04	Final version
A2	<p>Scheduling and Accounting (link) A. Scheduling of Power Exchange B. Online Observation of Power Exchange C. Accounting of Unintentional Deviations</p>	v0.4/20.07.04	Final version
A4	<p>Co-ordinated Operational Planning (link)</p>	v0.4/03.05.06	Final version

Proposal: The Contracting Parties, through their representatives in the Permanent High Level Group, are asked to contact the member companies to the UCTE (Table 1) and request a short report (1-2 pages) on implementation and follow of the Policies from the UCTE Operation Handbook. Depending on the findings from such report, the Contracting Parties shall adopt development plans to bring their power systems into line with the requirements from the UCTE Operation Handbook.

A Selection of the CEN and CENELEC Standards

With the creation of the single market in Europe and the beginning participation of the central and eastern European countries to join the European community, Europe now hosts the largest regional standards bodies in the world. There are three European standardisation bodies recognized as the authorities in the area of voluntary technical standardisation: the European Committee for Standardisation (CEN), the European Committee for Electrotechnical Standardisation (CENELEC) and the European Telecommunications Standards Institute (ETSI). Directive 98/34/EC2 recognises these bodies for the development of European standards in specific sectors. Often, the standard work is done under the umbrella of the International Standards Organisation (ISO) or International Electrotechnical Commission (IEC).

CEN is the focal point for standardisation in all issues except electrotechnology and telecommunications. Its work includes biotechnology, building and civil engineering, chemistry, environment, workplace health and safety, mechanical engineering, quality and measurement, among others. It is also working on standards for alternative energy sources, solid and liquid biofuels and fuels recovered from solids. CENELEC is the focal point for electrotechnology. CEN and Cenelec are non-profit organizations set up under Belgian law, developing common, agreed upon technical practices and procedures applicable to the whole of Europe to establish a single market. ETSI's work is not applicable to this paper and is not covered further. A condition of membership in CEN/CENELEC is that 80% of the European standards must have been transposed as national standards — dependent on the country having differentiated laws from standards.

CEN and ISO decide, on a case-by-case basis and according to precise conditions, whether to transfer the execution of European standards to ISO (and in a few cases, vice versa). ISO standards tend to involve test methods, glossaries of terms, and sampling methods. CEN tries to adapt ISO standards as European, wherever possible. Approximately 32% of CEN standards are identical to ISO standards.

CENELEC and IEC decide on the standards and conformity assessment in the field of electrotechnology including a provision for the common planning of new work. Therefore, CENELEC must notify IEC of its intended work. IEC is the organisation that prepares and publishes international standards for all electrical, electronic and related technology, including energy production and distribution.

Within the CEN, there are 12478 European standards and approved documents, 275 active technical committees, and 3510 documents in preparation. Under the *Utilities and Energy* subject domain, the CEN standardizes information and measurements regarding energy savings, efficiency and services (including definitions, calculation methods, qualification of energy service providers, consumer information requirements...). In the field of power engineering, CEN/CLC/TC 2 and CEN/CLC/JTF PE are the technical committees and task forces engaged in making the *Guide for procurement of power station equipment* (series of EN 45510 standards) based of the EU Directive 93/38/EEC (not part of the Acquis as per the Treaty). CEN/SS/F 23 is active in the field of energy management, energy efficiency and saving calculations (no approved standards as a result of its work yet).

At the end of 2006, total number of active CENELEC standards (including amendments) was 5128 (5636 total deliverables). CENELEC standards are worked out through its technical bodies such as technical committees, sub-committees, working groups, and task forces. To provide a means for demonstrating conformity with European Directives, CENELEC and the European Commission have reached agreements for CENELEC to develop appropriate

standards over a wide range of electrotechnical areas. The EU Directives from the Acquis as per the Treaty are not covered yet, meaning there is still no CENELEC standards directly related to the EU Directives from the Acquis as per the Treaty.

With exception of Montenegro and UNMIK (according to publicly available web based information), all other Contracting Parties have an institutionalised work on standardisation which has been conducted under umbrellas of CEN and CENELEC. Details on institutions in charge with standardisation in each Contracting Party are given hereafter.

Contracting Party: Albania
 CEN: Affiliate CENELEC: Affiliate
 Institution: General Directorate of Standardization
 Address: Mine Peza Street, 143/3; P.O.Box 98; AL – TIRANA
 Tel: + 355 4 24 71 75 Fax: + 355 4 24 71 77
 E-mail: dps@icc-al.org Web: www.dps.gov.al

Contracting Party: Bosnia and Herzegovina
 CEN: Partner CENELEC: Affiliate
 Institution: Institute for Standards, Metrology and Intellectual Property of Bosnia and Herzegovina
 Address: H. Cemerlica 2/7; BA - 71000 SARAJEVO
 Tel: + 387 33 65 27 65 Fax: + 387 33 65 27 57
 E-mail: info@basmp.gov.ba Web: www.basmp.gov.ba

Contracting Party: Bulgaria
 CEN: National Member CENELEC: Member
 Institution: Bulgarian Institute for Standardization
 Address: "Izgreve" Komplex, 165 Str.; Nr.3A; BG - 1797 SOFIA
 Tel: + 359 2 8174 504 Fax: + 359 2 873 5597
 E-mail: standards@bds-bg.org Web: www.bds-bg.org

Contracting Party: Croatia
 CEN: Affiliate CENELEC: Affiliate
 Institution: Croatian Standards Institute
 Address: Ulica grada Vukovara 78; p.p.167; HR - 10002 ZAGREB
 Tel: + 385 1 610 60 95 Fax: + 385 1 610 93 21
 E-mail: hzn@hzn.hr Web: www.hzn.hr

Contracting Party: The former Yugoslav Republic of Macedonia

CEN: Affiliate **CENELEC:** Affiliate
Institution: Standardization Institute of the Republic of Macedonia
Address: Vasil Glavinov b.b. mezanin, blok-10; MK - 1000 SKOPJE
Tel: + 389 2 329 89 44 **Fax:** + 389 2 329 89 45
E-mail: isrm@isrm.gov.mk **Web:** www.isrm.gov.mk

Contracting Party: Montenegro
CEN: No status **CENELEC:** No status
Institution:
Address:
Tel: **Fax:**
E-mail: **Web:**

Contracting Party: Romania
CEN: National Member **CENELEC:** Member
Institution: Romanian Standards Association
Address: Str. Mendeleev 21-25; RO - 010362 BUCHAREST 1
Tel: + 40 21 316 32 96 **Fax:** + 40 21 316 08 70
E-mail: asro@asro.ro **Web:** www.asro.ro

Contracting Party: Serbia
CEN: Partner **CENELEC:** Affiliate
Institution: Institute for Standardisation of Serbia
Address: Stevana Brakusa 2; CS - 11030 BEOGRAD
Tel: + 381 11 3541 256 **Fax:** + 381 11 3541 258
E-mail: issm-clc@jus.org.yu **Web:** www.jus.org.yu
jus@jus.org.yu

Contracting Party: UNMIK
CEN: No status **CENELEC:** No status
Institution:
Address:
Tel: **Fax:**
E-mail: **Web:**

Proposal: The Contracting Parties, through their representatives in the Permanent High Level Group, are asked to contact the institutions in charge with standardisation (previous tables) and request a short report (1-2 pages) on adoption of a selection of the standards given hereafter. Depending on the findings from such report, the Contracting Parties shall adopt development plans to align with the requirements from these standards.

Assessment of contract award procedure

Attestation Standard for the assessment of contract award procedures of entities operating in the water, energy, transport and telecommunications sectors (EN 45503:1996)

Procurement of power station equipment

Guide for procurement of power station equipment - Part 1: Common clauses (EN 45510-1:1997)

Guide for procurement of power station equipment - Part 2-1: Electrical equipment - Power transformers (EN 45510-2-1:1999)

Guide for procurement of power station equipment - Part 2-2: Electrical equipment - Uninterruptible power supplies (EN 45510-2-2:1999)

Guide for procurement of power station equipment - Part 2-3: Electrical equipment - Stationary batteries and chargers (EN 45510-2-3:2000)

Guide for procurement of power station equipment - Part 2-4: Electrical equipment - High power static convertors (EN 45510-2-4:2000)

Guide for procurement of power station equipment - Part 2-5: Electrical equipment - Motors (EN 45510-2-5:2002)

Guide for procurement of power station equipment - Part 2-6: Electrical equipment - Generators (EN 45510-2-6:2000)

Guide for procurement of power station equipment - Part 2-7: Electrical equipment - Switchgear and controlgear (EN 45510-2-7:2002)

Guide for procurement of power station equipment - Part 2-8: Electrical equipment - Power cables (EN 45510-2-8:2004)

Guide for procurement of power station equipment - Part 2-9: Electrical equipment - Cabling systems (EN 45510-2-9:2004)

Guide for procurement of power station equipment - Part 3-1: Boilers - Water tube boilers (EN 45510-3-1:1999)

Guide for procurement of power station equipment - Part 3-2: Boilers - Shell boilers (EN 45510-3-2:1999)

Guide for procurement of power station equipment - Part 3-3: Boilers - Boilers with fluidized bed firing (EN 45510-3-3:1999)

Guide for procurement of power station equipment - Part 4-1: Boiler auxiliaries - Equipment for reduction of dust emissions (EN 45510-4-1:1999)

Guide for procurement of power station equipment - Part 4-2: Boiler auxiliaries - Gas-air, steam-air and gas-gas heaters (EN 45510-4-2:1999)

- Guide for procurement of power station equipment - Part 4-3: Boiler auxiliaries - Draught plant (EN 45510-4-3:1999)
- Guide for procurement of power station equipment - Part 4-4: Boiler auxiliaries - Fuel preparation equipment (EN 45510-4-4:2002)
- Guide for procurement of power station equipment - Part 4-5: Boiler auxiliaries - Coal handling and bulk storage plant (EN 45510-4-5:2002)
- Guide for procurement of power station equipment - Part 4-6: Boiler auxiliaries - Flue gas desulphurization (De-SO_x) plant (EN 45510-4-6:1999)
- Guide for procurement of power station equipment - Part 4-7: Boiler auxiliaries - Ash handling plant (EN 45510-4-7:1999)
- Guide for procurement of power station equipment - Part 4-8: Boiler auxiliaries - Dust handling plant (EN 45510-4-8:1999)
- Guide for procurement of power station equipment - Part 4-9: Boiler auxiliaries - Sootblowers (EN 45510-4-9:1999)
- Guide for procurement of power station equipment - Part 4-10: Boiler auxiliaries - Flue gas denitrification (De-NO_x) plant (EN 45510-4-10:1999)
- Guide for procurement of power station equipment - Part 5-1: Steam turbines (EN 45510-5-1:1998)
- Guide for procurement of power station equipment - Part 5-2: Gas turbines (EN 45510-5-2:1998)
- Guide for procurement of power station equipment - Part 5-3: Wind turbines (EN 45510-5-3:1998)
- Guide for procurement of power station equipment - Part 5-4: Hydraulic turbines, storage pumps and pump-turbines (EN 45510-5-4:1998)
- Guide for procurement of power station equipment - Part 6-1: Turbine auxiliaries - Deaerators (EN 45510-6-1:1998)
- Guide for procurement of power station equipment - Part 6-2: Turbine auxiliaries - Feedwater heaters (EN 45510-6-2:1998)
- Guide for procurement of power station equipment - Part 6-3: Turbine auxiliaries - Condenser plant (EN 45510-6-3:1998)
- Guide for procurement of power station equipment - Part 6-4: Turbine auxiliaries - Pumps (EN 45510-6-4:1999)
- Guide for procurement of power station equipment - Part 6-5: Turbine auxiliaries - Dry cooling systems (EN 45510-6-5:1999)
- Guide for procurement of power station equipment - Part 6-6: Turbine auxiliaries - Wet and wet/dry cooling towers (EN 45510-6-6:1999)
- Guide for procurement of power station equipment - Part 6-7: Turbine auxiliaries - Moisture separator reheaters (EN 45510-6-7:1998)
- Guide for procurement of power station equipment - Part 6-8: Turbine auxiliaries - Cranes (EN 45510-6-8:1999)
- Guide for procurement of power station equipment - Part 6-9: Turbine auxiliaries - Cooling water systems (EN 45510-6-9:1999)

Guide for procurement of power station equipment - Part 7-1: Pipework and valves - High pressure piping systems (EN 45510-7-1:1999)

Guide for procurement of power station equipment - Part 7-2: Pipework and valves - Boiler and high pressure piping valves (EN 45510-7-2:1999)

Guide for procurement of power station equipment - Part 8-1: Control and instrumentation (EN 45510-8-1:1998)

Standard voltages, current ratings and frequencies

Voltage characteristics of electricity supplied by public distribution systems (EN 50160)

Nominal voltages for low voltage public electricity supply system (HD 472 S1:1988+A1:1995)

IEC Standard voltages (IEC 60038:1983+am1:1994+am2:1997)

IEC Standard current ratings (IEC 60059:1938)

IEC Standard frequencies (IEC 60196:1965)

Standard frequencies for centralised network control installations (IEC 60242:1967)

Measurements

Acceptance inspection of Class 2 alternating-current watt-hour meters (IEC 60514:1994, modified; EN 60514:1994)

Class 0,5, 1 and 2 alternating-current watt-hour meters (IEC 60521:1988; EN 60521:1995)

Alternating-current static watt-hour meters for active energy (classes 0,2 S and 0,5 S) (IEC 60687:1992; EN 60687:1992)

Alternating current static watt-hour meters for active energy (classes 1 and 2) (IEC 61036:1996; EN 61036:1996)

Electronic ripple control receivers for tariff and load control (IEC 61037:1990+A1:1996+A2:1998; EN 1037:1992+A1:1996+A2:1998)

Time switches for tariff and load control (IEC 61038:1990+A1:1996+A2:1998; EN 61038:1992+A1:1996+A2:1998)

Alternating current static watt-hour meters for reactive energy (classes 2 and 3) (IEC 61268:1995; EN 61268:1996)

Equipment specifications and requirements

Low voltage switchgear and controlgear -- Part 5-1: Control circuit devices and switching elements -- Electromechanical control circuit devices (IEC 60947-5-1:1997/am1:1999+am2:1999; EN 60947-5-1:1997/A12:1999)

High-voltage switchgear and controlgear (EN 62271)

Rotating electrical machines (EN 60034)

Power transformers (EN 60076)

Low-voltage switchgear and controlgear (EN 60947)

High-voltage switchgear and controlgear (EN 62271)

Overhead electrical lines exceeding AC 1 kV up to and including AC 45 kV (EN 50423)

Electrical relays (EN 60255)

Electricity metering equipment (a.c.) (EN 62053)

Instrument transformers (IEC 60044)

Power capacitors -- Low-voltage power factor correction banks (IEC 61921)

Guide to the selection of high-voltage cables (IEC 60183:1984+A1:1990)

Power cables with extruded insulation and their accessories for rated voltages above 30 kV ($U_m = 36$ kV) up to 150 kV ($U_m = 170$ kV) -- Test methods and requirements (IEC 60840:1999)

Uninterruptible power systems (UPS) -- Part 2: EMC requirements (EN 50091-2:1995/Corrigendum:1998)

Electronic equipment for use in power installations (EN 50178:1997)

High voltage direct current

Terminology for high-voltage direct current (HVDC) transmission (IEC 60633:1998; EN 60633:1999)

Thyristor valves for high voltage direct current (HVDC) power transmission -- Part 1: Electrical testing (IEC 60700-1:1998+am1:2003; EN 60700-1:1998+A1:2003)

Determination of power losses in high-voltage direct current (HVDC) converter stations (IEC 61803:1999; EN 61803:1999)

Insulation coordination

Insulation co-ordination -- Part 1: Definitions, principles and rules (IEC 60071-1:1993; EN 60071-1:1995)

Insulation co-ordination -- Part 2: Application guide (IEC 71-2:1996; EN 60071-2:1997)

Evaluation and qualification of electrical insulation systems (EN 60505)

Electrical apparatus for explosive atmospheres

Equipment and components intended for use in potentially explosive atmospheres in underground mines (EN 1710:2005)

Petrol filling stations -- Construction and performance of automatic nozzles for use on fuel dispensers (EN 13012:2001)

Potentially explosive atmospheres -- Terms and definitions for equipment and protective systems intended for use in potentially explosive atmospheres (EN 13237:2003)

Electrical apparatus for potentially explosive atmospheres -- Application of quality systems (EN 13980:2002)

Explosion prevention and protection in underground mines -- Protective systems -- Part 1: 2-bar explosion proof ventilation structure (EN 14591-1:2004)

Explosive atmospheres -- Explosion prevention and protection -- Part 2: Basic concepts and methodology for mining (EN 1127-2:2002)

Electrical apparatus for potentially explosive atmospheres -- General requirements (EN 50014:1997)

Electrical apparatus for potentially explosive atmospheres -- General requirements (EN 50014:1997/A1:1999+A2:1999)

Electrical apparatus for potentially explosive atmospheres -- Oil immersion "o" (EN 50015:1998)

Electrical apparatus for potentially explosive atmospheres -- Pressurised apparatus "p" (EN 50016:2002)

Electrical apparatus for potentially explosive atmospheres -- Powder filling "q" (EN 50017:1998)

Electrical apparatus for potentially explosive atmospheres -- Flameproof enclosure "d" (EN 50018:2000)

Electrical apparatus for potentially explosive atmospheres -- Flameproof enclosure "d" (EN 50018:2000/A1:2002)

Electrical apparatus for potentially explosive atmospheres -- Increased safety "e" (EN 50019:2000)

Electrical apparatus for potentially explosive atmospheres -- Intrinsic safety "i" (EN 50020:2002)

Electrical apparatus for potentially explosive atmospheres -- Encapsulation "m" (EN 50028:1987)

Electrical apparatus for potentially explosive atmospheres -- Caplights for mines susceptible to firedamp (EN 50033:1991)

Electrical apparatus for potentially explosive atmospheres -- Intrinsically safe electrical systems "i" (EN 50039:1980)

Electrical apparatus for potentially explosive atmospheres -- Electrostatic hand-held spraying equipment (EN 50050:1986)

Electromagnetic compatibility -- Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen (EN 50270:1999)

Electrical apparatus for use in the presence of combustible dust -- Part 1-1: Electrical apparatus protected by enclosures -- Construction and testing (EN 50281-1-1:1998/A1:2002)

Electrical apparatus for potentially explosive atmospheres -- Special requirements for construction, test and marking of electrical apparatus of equipment group II, Category 1G (EN 50284:1999)

Electrical apparatus for potentially explosive atmospheres -- Part 1-1: Flameproof enclosures "d" -- Method of test for ascertainment of maximum experimental safe gap (IEC 60079-1-1:2002)

Electrical apparatus for potentially explosive atmospheres -- Part 4: Method of test for ignition temperature (IEC 60079-4:1975+am1:1995)

Electrical apparatus for explosive gas atmospheres -- Electrical resistance trace heating -- Part 2: Application guide for design, installation and maintenance (IEC 62086-2:2001)

Safety of machinery

Safety of machinery -- Guidance and recommendations for the avoidance of hazards due to static electricity (CLC/R044-001:1999)

Safety of machinery -- Electrical equipment of machines -- Part 1: General requirements (IEC 60204-1:1997; EN 60204-1:1997+Corr.:1998)

Safety of machinery -- Electrical equipment of machines -- Part 11: Requirements for HV equipment for voltages above 1 000 V a.c. or 1 500 V d.c. and not exceeding 36 kV (IEC 60204-11:2000; EN 60204-11:2000)

Telecontrol equipment and systems -- Part 2: Operating conditions -- Section 1: Power supply and EMC (IEC 60870-2-1:1995; EN 60870-2-1:1996)

Electrical equipment of non-electric appliances for household and similar purposes -- Safety requirements (EN 50165:1997+A1:2001)

Safety of household and similar electrical appliances -- Part 1: General requirements (IEC 60335-1:1991, modified+am1:1994, modified; EN 60335-1:1994+A11:1995+A1:1996+A12:1996)

Household and similar electrical appliances -- Safety -- Part 1: General requirements (IEC 60335-1:2001, mod.; EN 60335-1:2002)

Safety of household and similar electrical appliances -- Part 1: General requirements (IEC 60335-1:1991/am2:1999; EN 60335-1:1994/A2:2000)

Safety of household and similar electrical appliances -- Part 2: Particular requirements for floor treatment machines and wet scrubbing machines (IEC 60335-2-10:1992; EN 60335-2-10:1995)

Safety of household and similar electrical appliances -- Part 2: Particular requirements for tumble dryers (IEC 60335-2-11:1993, modified; EN 60335-2-11:1995)

Safety of household and similar electrical appliances -- Part 2: Particular requirements for warming plates and similar appliances (IEC 60335-2-12:1992; EN 60335-2-12:1995)

Short circuit currents

Application guide for calculation of short-circuit currents in low-voltage radial systems (IEC 60781:1989; HD 581 S1:1991)

Short-circuit currents -- Calculation of effects -- Part 1: Definitions and calculation methods (IEC 60865-1:1993; EN 60865-1:1993)

Short-circuit currents -- Calculation of effects -- Part 2: Examples of calculation (IEC 60865-2:1994)

Short-circuit currents in three-phase a.c. systems -- Part 0: Calculation of currents (IEC 60909-0:2001; EN 60909-0:2001)

Short-circuit currents in three-phase a.c. systems -- Part 1: Factors for the calculation of short-circuit currents according to IEC 60909-0 (IEC/TR 60909-1:2002)

Electrical equipment -- Data for short-circuit current calculations in accordance with IEC 60909:1988 (IEC/TR3 60909-2:1992)

Short-circuit currents in three-phase a.c. systems -- Part 3: Currents during two separate simultaneous single phase line-to-earth short circuits and partial short-circuit currents flowing through earth (IEC 60909-3:2003; EN 60909-3:2003)

Short-circuit currents in three-phase a.c. systems -- Part 4: Examples for the calculation of short-circuit currents (IEC/TR 60909-4:2000)

Effects of current and protection against electric shock

Effects of current on human beings and livestock -- Part 1: General aspects (IEC/TR2 60479-1:1994)

Effects of current on human beings and livestock -- Part 3: Effects of current passing through the body of livestock (IEC/TS 60479-3:1998)

Protection against electric shock -- Common aspects for installation and equipment (IEC 61140:2001; EN 61140:2002)

Lightning protection

Lightning Protection Components (LPC) -- Part 1: Requirements for connection components (EN 50164-1:1999)

Lightning protection components (LPC) -- Part 2: Requirements for conductors and earth electrodes (EN 50164-2:2002)

Protection of structures against lightning -- Part 1: General principles -- Section 1: Guide A -- Selection of protection levels for lightning protection systems (IEC 61024-1-1:1993)

Protection of structures against lightning -- Part 1: General principles (IEC 61024-1:1990)

Protection of structures against lightning -- Part 1-2: General principles -- Guide B -- Design, installation, maintenance and inspection of lightning protection systems (IEC 61024-1-2:1998)

Protection against lightning electromagnetic impulse -- Part 1: General principles (IEC 61312-1:1995)

Protection against lightning electromagnetic impulse (LEMP) -- Part 2: Shielding of structures, bonding inside structures and earthing (IEC/TS 61312-2:1999)

Protection against lightning electromagnetic impulse -- Part 3: Requirements of surge protective devices (SPDs) (IEC/TS 61312-3:2000)

Protection against lightning electromagnetic impulse -- Part 4: Protection of equipment in existing structures (IEC/TS 61312-4:1998)

Assessment of the risk of damage due to lightning (IEC/TR2 61662:1995+am1:1996)

Lightning protection -- Telecommunication lines -- Part 1: Fibre optic installations (IEC 61663-1:1999+Corr.1:1999; EN 61663-1:1999)

Lightning protection -- Telecommunication lines -- Part 2: Lines using metallic conductors (IEC 61663-2:2001; EN 61663-2:2001)

Electromagnetic compatibility

Electromagnetic compatibility -- Generic emission standard -- Part 1: Residential, commercial and light industry (EN 50081-1:1992)

- Electromagnetic compatibility -- Generic emission standard -- Part 2: Industrial environment (EN 50081-2:1993)
- Electromagnetic compatibility -- Generic immunity standard -- Part 1: Residential, commercial and light industry (EN 50082-1:1997)
- Electromagnetic compatibility -- Requirements for household appliances, electric tools and similar apparatus -- Part 1: Emission -- Product family standard (CISPR 14-1:1993; EN 55014-1:1993)
- Electromagnetic compatibility -- Requirements for household appliances, electric tools and similar apparatus -- Part 1: Emission (CISPR 14-1:2000; EN 55014-1:2000)
- Electromagnetic compatibility -- Requirements for household appliances, electric tools and similar apparatus -- Part 1: Emission -- Product family standard (CISPR 14-1/A1:1996; EN 55014-1/A1:1997)
- Electromagnetic compatibility -- Requirements for household appliances, electric tools and similar apparatus -- Part 1: Emission -- Product family standard (CISPR 14-1/A2:1998; EN 55014-1/A2:1999)
- Electromagnetic compatibility -- Immunity requirements for household appliances, tools and similar apparatus -- Part 2: Immunity -- Product family standard (CISPR 14-2:1997; EN 55014-2:1997)
- Electromagnetic compatibility -- Requirements for household appliances, electric tools and similar apparatus -- Part 2: Immunity -- Product family standard (CISPR 14-2:1997/A1:2001; EN 55014-2:1997/A1:2001)
- Electromagnetic compatibility -- Part 2-10: Environment -- Description of HEMP environment -- Conducted disturbance (IEC 61000-2-10:1998; EN 61000-2-10:1999)
- Electromagnetic compatibility -- Part 2: Environment -- Section 2: Compatibility levels for low-frequency conducted disturbances and signaling in public low-voltage power supply systems (IEC 61000-2-2:1990, Mod.; ENV 61000-2-2:1993)
- Electromagnetic compatibility -- Part 2: Environment -- Section 4: Compatibility levels in industrial plants for low frequency conducted disturbances (IEC 61000-2-4:1994+Corr.1:1994; EN 61000-2-4:1994)
- Electromagnetic compatibility -- Part 2: Environment -- Section 9: Description of HEMP environment -- Radiated disturbance -- Basic EMC publication (IEC 61000-2-9:1996; EN 61000-2-9:1996)
- Electromagnetic compatibility -- Part 3-11: Limits -- Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems -- Equipment with rated current ≤ 75 A and subject to conditional connection (IEC 61000-3-11:2000; EN 61000-3-11:2000)
- Electromagnetic compatibility -- Part 3-2: Limits -- Limits for harmonic current emissions (equipment input current up to and including 16 A per phase) (IEC 61000-3-2:2000, modified; EN 61000-3-2:2000)
- Electromagnetic compatibility -- Part 3: Limits -- Section 3: Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current up to and including 16 A (IEC 61000-3-3:1994; EN 61000-3-3:1995+Corr.:1997)

Electromagnetic compatibility -- Part 4: Testing and measurement techniques -- Section 10: Damped oscillatory magnetic field immunity test -- Basic EMC Publication (IEC 61000-4-10:1993; EN 61000-4-10:1993)

Electromagnetic compatibility -- Part 4-10: Testing and measurement techniques -- Damped oscillatory magnetic field immunity test -- Basic EMC Publication (IEC 1000-4-10:1993/A1:2000; EN 61000-4-10:1993/A1:2001)

Electromagnetic compatibility -- Part 4: Testing and measuring techniques -- Section 11: Voltage dips, short interruptions and voltage variations immunity tests -- Basic EMC publication (IEC 61000-4-11:1994; EN 61000-4-11:1994)

Electromagnetic compatibility -- Part 4-11: Testing and measuring techniques -- Voltage dips, short interruptions and voltage variations immunity tests. Basic EMC publication (IEC 1000-4-11:1994/A1:2000; EN 61000-4-11:1994/A1:2001)

Electromagnetic compatibility -- Part 4-1: Testing and measurement techniques -- Overview of IEC 61000-4 series (IEC 61000-4-1:2000; EN 61000-4-1:2000)

Electromagnetic compatibility -- Part 4: Testing and measurement techniques -- Section 12: Oscillatory waves immunity test -- Basic EMC Publication (IEC 61000-4-12:1995; EN 61000-4-12:1995)

Electromagnetic compatibility -- Part 4-12: Testing and measurement techniques -- Oscillatory waves immunity test -- Basic EMC Publication (IEC 1000-4-12:1995/A1:2000; EN 61000-4-12:1995/A1:2001)

Electromagnetic compatibility -- Part 4-14: Testing and measurement techniques -- Voltage fluctuation immunity test (IEC 61000-4-14:1999; EN 61000-4-14:1999)

Electromagnetic compatibility -- Part 4: Testing and measurement techniques -- Section 15: Flickermeter -- Functional and design specifications (IEC 61000-4-15:1997; EN 61000-4-15:1998)

Electromagnetic compatibility -- Part 4-16: Testing and measurement techniques -- Test for immunity to conducted, common mode disturbances in the frequency range 0 Hz to 150 kHz (IEC 61000-4-16:1998; EN 61000-4-16:1998)

Electromagnetic compatibility -- Part 4-17: Testing and measurement techniques -- Ripple on d.c. input power port immunity test (IEC 61000-4-17:1999; EN 61000-4-17:1999)

Electromagnetic compatibility -- Part 4: Testing and measurement techniques -- Section 2: Electrostatic discharge immunity test -- Basic EMC Publication (IEC 61000-4-2:1995; EN 61000-4-2:1995)

Electromagnetic compatibility -- Part 4: Testing and measurement techniques -- Section 24: Test methods for protective devices for HEMP conducted disturbance -- Basic EMC publication (IEC 61000-4-24:1997; EN 61000-4-24:1997)

Electromagnetic compatibility -- Part 4-27: Testing and measurement techniques -- Unbalance, immunity test (IEC 61000-4-27:2000; EN 61000-4-27:2000)

Electromagnetic compatibility -- Part 4-28: Testing and measurement techniques -- Variation of power frequency, immunity test (IEC 61000-4-28:1999; EN 61000-4-28:2000)

Electromagnetic compatibility -- Part 4-29: Testing and measurement techniques -- Voltage dips, short interruptions and voltage variations on d.c. input power port immunity tests (IEC 61000-4-29:2000; EN 61000-4-29:2000)

Electromagnetic compatibility -- Part 4-2: Testing and measurement techniques -- Electrostatic discharge immunity test (IEC 61000-4-2:1995/A1:1998; EN 61000-4-2:1995/A1:1998)

Electromagnetic compatibility -- Part 4-2: Testing and measurement techniques -- Electrostatic discharge immunity test (IEC 61000-4-2:1995/A2:2000; EN 61000-4-2:1995/A2:2001)

Electromagnetic compatibility -- Part 4-2: Testing and measurement techniques -- Electrostatic discharge immunity test (IEC 61000-4-2:1995/A2:2000; EN 61000-4-2:1995/A2:2001)

Electromagnetic compatibility -- Part 4: Testing and measurement techniques -- Section 3: Radiated, radio-frequency, electromagnetic field immunity test -- Basic EMC Publication (IEC 61000-4-3:1995; EN 61000-4-3:1996)

Electromagnetic compatibility -- Part 4-3: Testing and measurement techniques -- Radiated, radio-frequency, electromagnetic field immunity test (IEC 61000-4-3:1995/A1:1998; EN 61000-4-3:1996/A1:1998)

Electromagnetic compatibility -- Part 4-3: Testing and measurement techniques -- Radiated, radio-frequency, electromagnetic field immunity test (IEC 61000-4-3:1995/A2:2000; EN 61000-4-3:1996/A2:2001)

Electromagnetic compatibility -- Part 4: Testing and measurement techniques -- Section 4: Electrical fast transient/burst immunity test -- Basic EMC Publication (IEC 61000-4-4:1995; EN 61000-4-4:1995)

Electromagnetic compatibility -- Part 4-4: Testing and measurement techniques -- Electrical fast transient/burst immunity test -- Basic EMC Publication (IEC 61000-4-4:1995/A1:2000; EN 61000-4-4:1995/A1:2001)

Electromagnetic compatibility -- Part 4: Testing and measurement techniques -- Section 5: Surge immunity tests (IEC 61000-4-5:1995; EN 61000-4-5:1995)

Electromagnetic compatibility -- Part 4-5: Testing and measurement techniques -- Surge immunity test (IEC 61000-4-5:1995/A1:2000; EN 61000-4-5:1995/A1:2001)

Electromagnetic compatibility -- Part 4: Testing and measurement techniques -- Section 6: Immunity to conducted disturbances, induced by radio-frequency fields (IEC 61000-4-6:1996; EN 61000-4-6:1996)

Electromagnetic compatibility -- Part 4-6: Testing and measurement techniques -- Immunity to conducted disturbances, induced by radio-frequency fields (IEC 61000-4-6:1996/A1:2000; EN 61000-4-6:1996/A1:2001)

Electromagnetic compatibility -- Part 4: Testing and measurement techniques -- Section 7: General guide on harmonics and interharmonics measurement and instrumentation, for power supply systems and equipment connected thereto (IEC 61000-4-7:1991; EN 61000-4-7:1993)

Electromagnetic compatibility -- Part 4: Testing and measurement techniques -- Section 8: Power frequency magnetic field immunity test -- Basic EMC Publication (IEC 61000-4-8:1993; EN 61000-4-8:1993)

Electromagnetic compatibility -- Part 4-8: Testing and measurement techniques -- Power frequency magnetic field immunity test -- Basic EMC Publication (IEC 1000-4-8:1993/A1:2000; EN 61000-4-8:1993/A1:2001)

Electromagnetic compatibility -- Part 4: Testing and measurement techniques -- Section 9: Pulse magnetic field immunity test -- Basic EMC Publication (IEC 61000-4-9:1993; EN 61000-4-9:1993)

Electromagnetic compatibility -- Part 4-9: Testing and measurement techniques -- Pulse magnetic field immunity test -- Basic EMC Publication (IEC 1000-4-9:1993/A1:2000; EN 61000-4-9:1993/A1:2001)

Electromagnetic compatibility -- Part 5: Installation and mitigation guidelines -- Section 5: Specification of protective devices for HEMP conducted disturbance (IEC 61000-5-5:1996; EN 61000-5-5:1996)

Electromagnetic compatibility -- Part 6-1: Generic standards -- Immunity for residential, commercial and light-industrial environments (IEC 61000-6-1:1997; EN 61000-6-1:2001)

Electromagnetic compatibility -- Part 6-2: Generic standards -- Immunity for industrial environments (IEC 61000-6-2:1999; EN 61000-6-2:1999)

Electromagnetic compatibility -- Part 6-3: Generic standards -- Emission standard for residential, commercial and light-industrial environments (IEC 61000-6-3:1996, modified; EN 61000-6-3:2001)

Electromagnetic compatibility -- Part 6-3: Generic standards -- Emission standard for residential, commercial and light-industrial environments (EN 61000-6-3:2001/A11:2004)

Electromagnetic compatibility -- Part 6-4: Generic standards -- Emission standard for industrial environments (IEC 61000-6-4:1997, modified; EN 61000-6-4:2001)

Production of electricity from renewable sources

Specification for Use of Renewable Energies in Rural Decentralised Electrification (IEC 62111)

Recommendations for small renewable energy and hybrid systems for rural electrification (IEC 62257)

Part 1: General introduction to rural electrification

Part 2: From requirements to a range of electrification systems

Part 3: Project development and management

Part 4: System selection and design

Part 5: Protection against electrical hazards

Part 6: Acceptance, operation, maintenance and replacement

GENERALLY APPLICABLE STANDARDS - NATURAL GAS -

1. Background

As a part of the Treaty establishing the Energy Community (Title II – The Extension of the *acquis communautaire*, Chapter VI – Compliance with generally applicable standards of the European Community), Articles 21-23 specify the following obligations:

- within one year of the date of entry into force of the Treaty, the Secretariat shall draw up a list of the Generally Applicable Standards of the European Community, to be submitted to the Ministerial Council for adoption; and the Contracting Parties shall,
- within one year of the adoption of the list, adopt development plans to bring their Network Energy sectors into line with these Generally Applicable Standards of the European Community.

2. Purpose

The purpose of this paper is to propose to the Contracting Parties a list of Generally Applicable Standards of the European Community relating to natural gas.

3. Objective

Generally Applicable Standards of the European Community refer to any technical system standard that is applied within the European Community, and is necessary for operating network systems safely and efficiently, including aspects of transmission, cross-border connections, modulation and general technical system security standards issued where applicable via:

- the European Committee for Standardization (CEN) – web link to the On-line Catalogue of European Standards <http://www.cen.eu/catweb/cwen.htm>;
- the European Committee for Electrotechnical Standardization (CENELEC) – web link to the the CENELEC database general information on CENELEC standardization activities <http://www.cenelec.org/Cenelec/Code/Frameset.aspx>
- and similar normation bodies or as issued by the
 - Union for the Co-ordination of Transmission of Electricity (UCTE) – web link to the UCTE Operation Handbook http://www.ucte.org/ohb/cur_status.asp
 - and the European Association for the Streamlining of Energy Exchanges (Easeegas) – web link to the Approved Common Business Practices <http://www.easee-gas.org/common-business-practices/approved-CBPs>

for common rule setting and business practices.

4. Steps

- ECS to draw up a list of Generally Applicable Standards in the European Community on the basis of information provided in previously given web pages by 30 April 2007;
- Contracting Parties to provide comments on content and acceptability of the list drawn by the ECS by 15 May 2007;
- ECS to finalise the list on the basis of comments given by the Contracting Parties by 30 May 2007 and submit it in due time for the PHLG and MC June 2007 meetings.

5. Approach - Proposed Generally Applicable Standards

According to the Directive 2003/55/EC the Member States shall ensure, on the basis of their institutional organization and with due regard to the principle of subsidiarity, that natural gas undertakings are operated in accordance with the principles of the Directive 2003/55/EC with a view to achieving a competitive, secure and environmentally sustainable market in gas.

Security means both security of supply of natural gas and technical safety (Directive 2003/55/EC Article 2 par. 32)

Furthermore Directive 2003/55/EC, Article 6 requires that Member States shall ensure that technical safety criteria are defined and that technical rules establishing the minimum technical design and operational requirements for the connection to the system of LNG facilities, storage facilities, other transmission or distribution systems, and direct lines, are developed and made public. These technical rules shall ensure the interoperability of systems and shall be objective and non-discriminatory.

To determine the minimum requirements for gas transmission and gas distribution networks for a sustainable secure and reliable operation in accordance with the state of the art and the state of the art technology respectively for evaluation of the needed effort for TSOs and DSOs the following measures with the belonging field of functions have to be considered:

A. Technical design provisions for natural gas pipelines

1. Quality assurance
 - Equipment, product
 - Proceeding
 - Human resources
 - Undertaking
2. Planning
 - Project planning
 - Detail engineering
 - Approval
 - Construction preparation
3. Installation
 - Pipeline construction, equipment erection
 - Civil engineering
 - Reconditioning of streets
 - Electrical engineering
 - Measuring-, controlling-, regulation technique

- Corrosion protection
- Construction supervision
- Calibration
- Inspection and preparation for operation

4. Corrective maintenance

- Repair
- Rehabilitation

B. Operative measures of the network operator

1. Operation

- Take over of natural gas
- Odourisation
- Dispatching
- Start up of operation
- Shut-down
- Measurement, Controlling, Switching
- Information and data communication

2. Maintenance

- Supervision
- Service

3. Indispensable ancillary service

- Fault clearing and affliction service
- Gas metering service
- Customer service

C. Organisational Measures of the network operator

1. Network management

- General administration
- Network planning
- Network data management
- Safety audit
- Disturbance documentation
- Renewal and maintenance strategy
- Administration of customer data

2. Planning

- Drawings
- Network IT

3. Quality Management

- Education and advance vocational training
- Provisions and norms
- Company organization of the network operator
- Certification as a network operator/verification of the qualification

D. Standards issued by the European Standard Committee for Standardization (CEN)

With exception of Montenegro and UNMIK (according to publicly available web based information), all other Contracting Parties have an institutionalised work on standardisation which has been conducted under umbrellas of CEN and CENELEC. Details on institutions in charge with standardisation in each Contracting Party are given hereafter.

Contracting Party:	Albania		
CEN:	Affiliate	CENELEC:	Affiliate
Institution:	General Directorate of Standardization		
Address:	Mine Peza Street, 143/3; P.O.Box 98; AL – TIRANA		
Tel:	+ 355 4 24 71 75	Fax:	+ 355 4 24 71 77
E-mail:	dps@icc-al.org	Web:	www.dps.gov.al
Contracting Party:	Bosnia and Herzegovina		
CEN:	Partner	CENELEC:	Affiliate
Institution:	Institute for Standards, Metrology and Intellectual Property of Bosnia and Herzegovina		
Address:	H. Cemerlica 2/7; BA - 71000 SARAJEVO		
Tel:	+ 387 33 65 27 65	Fax:	+ 387 33 65 27 57
E-mail:	info@basmp.gov.ba	Web:	www.basmp.gov.ba
Contracting Party:	Bulgaria		
CEN:	National Member	CENELEC:	Member
Institution:	Bulgarian Institute for Standardization		
Address:	"Izgreve" Komplex, 165 Str.; Nr.3A; BG - 1797 SOFIA		
Tel:	+ 359 2 8174 504	Fax:	+ 359 2 873 5597
E-mail:	standards@bds-bg.org	Web:	www.bds-bg.org
Contracting Party:	Croatia		
CEN:	Affiliate	CENELEC:	Affiliate
Institution:	Croatian Standards Institute		
Address:	Ulica grada Vukovara 78; p.p.167; HR - 10002 ZAGREB		
Tel:	+ 385 1 610 60 95	Fax:	+ 385 1 610 93 21
E-mail:	hzn@hzn.hr	Web:	www.hzn.hr
Contracting Party:	The former Yugoslav Republic of Macedonia		
CEN:	Affiliate	CENELEC:	Affiliate
Institution:	Standardization Institute of the Republic of Macedonia		
Address:	Vasil Glavinov b.b. mezanin, blok-10; MK - 1000 SKOPJE		

Tel: + 389 2 329 89 44 Fax: + 389 2 329 89 45
 E-mail: isrm@isrm.gov.mk Web: www.isrm.gov.mk
 Contracting Party: Montenegro
 CEN: No status CENELEC: No status
 Institution:
 Address:
 Tel: Fax:
 E-mail: Web:
 Contracting Party: Romania
 CEN: National Member CENELEC: Member
 Institution: Romanian Standards Association
 Address: Str. Mendeleev 21-25; RO - 010362 BUCHAREST 1
 Tel: + 40 21 316 32 96 Fax: + 40 21 316 08 70
 E-mail: asro@asro.ro Web: www.asro.ro
 Contracting Party: Serbia
 CEN: Partner CENELEC: Affiliate
 Institution: Institute for Standardisation of Serbia
 Address: Stevana Brakusa 2; CS - 11030 BEOGRAD
 Tel: + 381 11 3541 256 Fax: + 381 11 3541 258
 E-mail: issm-clc@jus.org.yu Web: www.jus.org.yu
jus@jus.org.yu
 Contracting Party: UNMIK
 CEN: No status CENELEC: No status
 Institution:
 Address:
 Tel: Fax:
 E-mail: Web:

Proposal: The Contracting Parties, through their representatives in the Permanent High Level Group, are asked to contact the institutions in charge with standardisation (previous tables) and request a short report (1-2 pages) on adoption of a selection of the standards given hereafter. Depending on the findings from such report, the Contracting Parties shall adopt development plans to align with the requirements from these standards.

For the below stated standards issued by the European Committee for Standardization (CEN) and adopted by the Ministerial Council, the Contracting Parties shall, within one year of the adoption of the list, adopt development plans to bring their Gas network sector into line with these Standards of the European Community.

CEN	Title description	Remarks
EN 286-1	Simple unfired pressure vessels designed to contain air or nitrogen - Part 1: Pressure vessels for general purposes	
EN 287-1	Qualification test of welders – Fusion welding – Part 1: Steels	
EN 288-9	Specification and approval of welding procedures for metallic materials – Part 9: Welding procedure test for pipeline welding on land and offshore site butt welding of transmission pipelines	
EN 334	Gas pressure regulators for inlet pressure up to 100 bar	
EN 473	Non destructive testing – Qualification and certification of NDT personnel – General principles	
EN 1092-1	Flanges and their joints – Circular flanges for pipes, valves, fittings and accessories, PN designated – Part 1: Steel flanges	
EN 1333	Flanges and their joints – Pipe work components – Definition and selection of PN	
EN 1555-1	Plastics piping systems for the supply of gaseous fuels – Polyethylene (PE) – Part 1: General	
EN 1555-2	Plastics piping systems for the supply of gaseous fuels – Polyethylene (PE) – Part 2: Pipes	
EN 1555-3	Plastics piping systems for the supply of gaseous fuels – Polyethylene (PE) – Part 3: Fittings	
EN 1555-4	Plastics piping systems for the supply of gaseous fuels – Polyethylene (PE) – Part 4: Valves	
EN 1555-5	Plastics piping systems for the supply of gaseous fuels – Polyethylene (PE) – Part 5: Fitness for purpose of the system	
EN 1594	Gas supply systems – Pipelines for maximum operating pressure over 16 bar – Functional requirements	
EN 1759-1	Flanges and their joint – Circular flanges for pipes, valves, fittings and accessories, Class designated – Part 1: Steel flanges, NPS 1/2 to 24	
EN 1776	Gas supply systems – Natural gas measuring stations – Functional requirements	
EN 10204	Metallic products - Types of inspection documents	
EN 10208-1	Steel pipes for pipelines for combustible fluids – Technical delivery conditions – Part 1: Pipes of requirement class A	
EN 10208-2	Steel pipes for pipelines for combustible fluids – Technical delivery conditions – Part 2: Pipes of requirement class B	
EN 10216-1	Seamless steel tubes for pressure purposes – Technical	

	delivery conditions – Part 1: Non-alloy steel tubes with specified room temperature properties (EN 10216-1:2002 + A1:2004)	
EN 10216-2	Seamless steel tubes for pressure purposes – Technical delivery conditions – Part 2: Non-alloy and alloy steel tubes with specified elevated temperature properties (EN 10216-2:2002 + A1:2004)	
EN 10216-3	Seamless steel tubes for pressure purposes – Technical delivery conditions – Part 3: Alloy fine grain steel tubes (EN 10216-3:2002 + A1:2004)	
EN 10216-4	Seamless steel tubes for pressure purposes – Technical delivery conditions – Part 4: Non-alloy and alloy steel tubes with specified low temperature properties (EN 10216-4:2002 + A1:2004)	
EN 10217-1	Welded steel tubes for pressure purposes – Technical delivery conditions – Part 1: Non-alloy steel tubes with specified room temperature properties	
EN 10217-1/A1	Welded steel tubes for pressure purposes – Technical delivery conditions – Part 1: Non-alloy steel tubes with specified room temperature properties (Amendment)	
EN 10217-2	Welded steel tubes for pressure purposes – Technical delivery conditions – Part 2: Electric welded non-alloy and alloy steel tubes with specified elevated temperature properties	
EN 10217-3	Welded steel tubes for pressure purposes – Technical delivery conditions – Part 3: Alloy fine grain steel tubes	
EN 10217-4	Welded steel tubes for pressure purposes – Technical delivery conditions – Part 4: Electric welded non-alloy steel tubes with specified low temperature properties	
EN 10217-5	Welded steel tubes for pressure purposes – Technical delivery conditions – Part 5: Submerged arc welded non-alloy and alloy steel tubes with specified elevated temperature properties	
EN 10217-6	Welded steel tubes for pressure purposes – Technical delivery conditions – Part 6: Submerged arc welded non-alloy steel tubes with specified low temperature properties	
EN 10220	Seamless and welded steel tubes – Dimensions and masses per unit length	
EN 10226-1	Pipe threads where pressure tight joints are made on the threads – Part 1: Taper external threads and parallel internal threads – Dimensions, tolerances and designation	
EN 10285	Steel tubes and fittings for on and offshore pipelines – External three layer extruded polyethylene based coatings	Withdrawn without substitution
EN ISO 10286	Gas cylinders – Terminology (ISO/DIS 10286:2004)	
EN 10287	Steel tubes and fittings for on and offshore pipelines – External fused polyethylene based coatings	Withdrawn without substitution
EN 10288	Steel tubes and fittings for onshore and offshore pipelines	

	– External two layer extruded polyethylene based coatings	
EN 10289	Steel tubes and fittings for onshore and offshore pipelines – External liquid applied epoxy and epoxy-modified coatings	
EN 10290	Steel tubes and fittings for onshore and offshore pipelines – External liquid applied polyurethane and polyurethane-modified coatings	
EN 12007-1	Gas supply systems – Pipelines for maximum operating pressure up to and including 16 bar – Part 1: General functional recommendations	
EN 12007-2	Gas supply systems – Pipelines for maximum operating pressure up to and including 16 bar – Part 2: Specific functional recommendations for polyethylene (MOP up to and including 10 bar)	
EN 12007-3	Gas supply systems – Pipelines for maximum operating pressure up to and including 16 bar – Part 3: Specific functional recommendations for steel	
EN 12007-4	Gas supply systems – Pipelines for maximum operating pressure up to and including 16 bar – Part 4: Specific functional recommendations for renovation	
EN 12068	Cathodic protection – External organic coatings for the corrosion protection of buried or immersed steel pipelines used in conjunction with cathodic protection – Tapes and shrinkable materials	
EN 12186	Gas supply systems – Gas pressure regulating stations for transmission and distribution – Functional requirements	
EN 12266-1	Industrial valves – Testing of valves – Part 1: Pressure tests, test procedures and acceptance criteria – Mandatory requirements	
EN 12266-2	Industrial valves – Testing of valves – Part 2: Tests, test procedures and acceptance criteria – Supplementary requirements	
EN 12279	Gas supply systems – Gas pressure regulating installations on service lines – Functional requirements	
EN 12327	Gas supply systems - Pressure testing, commissioning and decommissioning procedures - Functional requirements	
EN 12583	Gas supply systems – Compressor stations – Functional requirements	
EN 12732	Gas supply systems - Welding steel pipework - Functional requirements	
EN 13133	Brazing - Brazer approval	
EN 13134	Brazing - Procedure approval	
EN 13445-1	Unfired pressure vessels – Part 1: General	
EN 13445-2	Unfired pressure vessels – Part 2: Materials	
EN 13445-3	Unfired pressure vessels – Part 3: Design	
EN 13445-4	Unfired pressure vessels – Part 4: Fabrication	
EN 13445-5	Unfired pressure vessels – Part 5: Inspection and testing	
EN 13445-6	Unfired pressure vessels – Part 6: Requirements for the	

	design and fabrication of pressure vessels and pressure parts constructed from spheroidal graphite cast iron	
EN 13480-1	Metallic industrial piping – Part 1: General	
EN 13480-2	Metallic industrial piping – Part 2: Materials	
EN 13480-3	Metallic industrial piping – Part 3: Design and calculation	
EN 13480-4	Metallic industrial piping – Part 4: Fabrication and installation	
EN 13480-5	Metallic industrial piping – Part 5: Inspection and testing	
EN 13480-6	Metallic industrial piping – Part 6: Additional requirements for buried piping	
EN 13774	Valves for gas distribution systems with maximum operating pressure less than or equal to 16 bar – Performance requirements	
EN 13942	Petroleum and natural gas industries – Pipeline transportation systems – Pipeline valves (ISO 14313:1999 modified)	
EN 14141	Valves for natural gas transportation in pipelines – Performance requirements and tests	
EN 14382	Safety devices for gas pressure regulating stations and installations – Gas safety shut-off devices for inlet pressures up to 100 bar	
EN 14505	Cathodic protection of complex structures	
EN 15001-1	Gas Supply Systems – Gas installation pipework with an operating pressure greater than 0,5 bar for industrial, commercial and non-domestic gas installations – Part 1: Detailed functional requirements for design, materials, construction, inspection and testing	
EN 15001-2	Gas supply systems – Gas installation pipework with an operating pressure greater than 0,5 bar for industrial, commercial and non-domestic gas installations – Part 2: Detailed functional requirements for commissioning, operation and maintenance	
EN ISO 3834-1	Quality requirements for fusion welding of metallic materials - Part 1: Criteria for the selection of the appropriate level of quality requirements (ISO 3834-1:2005)	
EN ISO 3834-2	Quality requirements for fusion welding of metallic materials - Part 2: Comprehensive quality requirements (ISO 3834-2:2005)	
EN ISO 3834-3	Quality requirements for fusion welding of metallic materials - Part 3: Standard quality requirements (ISO 3834-3:2005)	
EN ISO 3834-4	Quality requirements for fusion welding of metallic materials - Part 4: Elementary quality requirements (ISO 3834-4:2005)	
EN ISO 3834-5	Quality requirements for fusion welding of metallic materials - Part 5: Documents with which it is necessary to conform to claim conformity to the quality requirements of ISO 3834-2, ISO 3834-3 or ISO 3834-4 (ISO 3834-5:2005)	
EN ISO 5817	Welding – Fusion-welded joints in steel, nickel, titanium	

	and their alloys (beam welding excluded) – Quality levels for imperfections (ISO 5817:2003 and ISO 5817/Cor.1:2006)	
EN ISO 6708	Pipework components – Definition and selection of DN (nominal size) (ISO 6708:1995)	
EN ISO 15612	Specification and qualification of welding procedures for metallic materials - Qualification by adoption of a standard welding procedure (ISO 15612:2004)	
EN ISO 15614-1	Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys (ISO 15614-1:2004)	
EN 60079-10	Electrical apparatus for explosive gas atmospheres - Part 10: Classification of hazardous areas (IEC 60079-10:2002)	
EN 60079-14	Electrical apparatus for explosive gas atmospheres – Part 14: Electrical installations in hazardous areas (other than mines) (IEC 60079-14:2002)	
EN 50272-2	Safety requirements for secondary batteries and battery installations - Part 2: Stationary batteries	

E. Standards/recommendations issued by the European Association for the Streamlining of Energy exchanges (Easeegas) <http://www.easee-gas.org/>

EASEE-gas was set up in 2002 to develop and promote the simplification and streamlining of both the physical transfer and the trading of gas across Europe. EASEE-gas, through its *Working Groups*, provides a structured platform where industry participants can discuss the harmonisation and simplification of business processes by developing *Common Business Practices* (CBP's).

CBPs are standards, procedures and/or protocols commonly used in the gas industry in Europe and **recommended** by EASEE-gas for adoption by all relevant industry players to simplify and streamline business processes across the whole of Europe.

Title - Description	Approved	Remarks
<u>CBP 2003-001-01 Harmonisation of Units</u>	27.8.2003	This Common Business Practice promotes the use of the same units for pressure, energy, volume and calorific value by all organisations involved in the delivery of gas from the producer to the client.
<u>CBP 2003-002-01 Harmonisation of Nomination and Matching process</u>	2003	This Common Business Practice describes a first set of recommendations for the part of the process which relates specifically to cross-border

		transportation nominations and involves shippers and TSOs. For reasons of consistency, it should also serve as the core for the communication processes between all other relevant parties involved in the gas chain.
<u>CBP 2003-003-01 Use of Edig@s protocol</u>	18.02.2004	This Common Business Practice describes the use of the <u>EDIG@S</u> protocol for exchange of business information between parties in the European gas market.
<u>CBP 2005-001-01 Gas Quality Harmonisation</u>	27.10.2005	This Common Business Practice recommends natural gas quality specifications to streamline interoperability at cross border points in Europe and describes the recommended gas quality parameters, parameter ranges and the implementation plan. The Common Business Practice is limited to cross border and EU entry points fro high caloric gas without added odorants, including LNG import terminals and excluding areas of production and isolated systems where production, transportation and utilization are combined
<u>CBP 2005-002-01 Interconnection Agreements</u>	08.09.2005	This Common Business Practice describes the scope of an Interconnection Agreement to be established by two adjacent TSOs, describing how to facilitate interoperability of the grids
<u>CBP 2005-003-01 Constraints</u>	08.09.2005	This Common Business Practice describes the operational procedures to be applied where constraints arise due to unforeseen restrictions in transmission capacity or due to off-specification gas properties.

F. Other engineering rules foreseen as guidelines for a safe/reliable operation

Additionally to the standards issued by the CEN and the recommendations of Easeegas, the following engineering rules could be used as **guidelines** for a safe and reliable system operation. This DVGW or Austrian standards are thought as indicative and are not foreseen to replace existing engineering rules in the regarding Contracting Party

Other engineering rules	Title description	Remarks
DVGW G 401	Decision guidance with regards to rehabilitation of distribution networks	
DVGW G 433	Surface gas storage with an operating pressure more than 1 bar; construction and operation	
DVGW G 458	Expost increase of pressure in natural gas pipelines	
DVGW G 465-2	Natural gas pipelines with an operation pressure up to 5 bar – reconditioning	
DVGW G 466-1	Natural gas pipelines made of steel – with an operation pressure higher than 5 bar – reconditioning	
DVGW G 478	Rehabilitation of natural gas pipelines with fabric tube relining; requirements, quality assurance and inspection	
DVGW G 493-1	Qualification criteria for undertakings for planning, production and construction of ready for use natural gas pressure and measurement equipment	
DVGW G 493-2	Qualification criteria for undertakings for maintenance of natural gas pressure/measurement equipment in natural gas infrastructure	
DVGW G 495	Gas infrastructure – maintenance	
DVGW G 497	Gas compressor facilities	
DVGW GW 16	Remote monitoring of cathodical corrosion protection	
DVGW GW 119	Improvement of operational processes by using GIS systems	
DVGW GW 122	Network information systems; buildup and continuation with support of graphical data processing	
DVGW GW 123	Construction and continuation of digital pipeline documentation, procedures, approach and performance graphic	
DVGW GW 301	Qualification criteria for pipeline construction undertakings	
DVGW GW 302	Qualification criteria for undertakings performing construction and rehabilitation of pipelines - which are out of operation – without digging	
DVGW GW 304	Pipeline driving	
DVGW GW 309	Electrical bridging in case of pipeline disconnection	
DVGW GW 320-1	Rehabilitation of natural gas and water pipelines through relining by PE with annular space, requirements, quality assurance and inspection	
DVGW GW 320-2	Rehabilitation of natural gas/water pipelines through relining by PE without annular space, requirements, quality assurance, inspection	
DVGW GW 321	Controllable horizontal scavenging drilling for natural gas and water pipelines; requirements, quality assurance and inspection	
DVGW GW 322-1	Replacement of natural gas and water pipelines without digging – part 1: pressing and tractioning; requirements, quality assurance and inspection	
DVGW GW 323	Replacement of natural gas and water pipelines without digging by applying the crack relining procedure; requirements, quality assurance and inspection	

DIN 4124	Excavations, trenches; taluses, sheeting, workspace	
OEVGW G 1	Technical rules for construction, modification, operation and maintenance of low pressure gas installations - Part 1 to 5	
OEVGW G 1/1	Technical rules for construction, modification, operation and maintenance of low pressure gas installations - Part 1: Terms and definitions	
OEVGW G 1/2	Technical rules for construction, modification, operation and maintenance of low pressure gas installations-Part 2:Service pipes	
OEVGW G 1/3	Technical rules for construction, modification, operation and maintenance of low pressure gas installations - Part 3: Installation, connection and operation of gas appliances	
OEVGW G 1/4	Technical rules for construction, modification, operation and maintenance of low pressure gas installations - Part 4: Flue gas evacuation of gas appliances	
OEVGW G 1/5	Technical rules for construction, modification, operation and maintenance of low pressure gas installations - Part 5: Tables, figures, examples	
OEVGW G 5	Repair service for interruptions and defects	
OEVGW G 6	Gas installations with pressures over 100 mbar up to 5 bar - Technical rules for construction, modification, operation and maintenance of gas installations with operating pressures over 100 mbar up to 5 bar	
OEVGW G 10	Safety check of internal gas installations	Withdrawn 2007 05
OEVGW G 20	Cathodic corrosion protection - Planning and construction - Planning and construction of cathodic corrosion protective equipment for buried gas mains from steeltubes and for stock containers made from steel	
OEVGW G 21	Cathodic corrosion protection - Commissioning and surveillance - Commissioning and surveillance of the cathodic corrosion protection for buried gas mains from steel tubes and for storage containers made from steel	
OEVGW G 24	Electrical insulation spots - Installation and Situation	
OEVGW G 25	Passive protection against corrosion - Coatings and covering of flaws for buried pipelines and parts of mains - Structure and establishment	
OEVGW G 28	Distances between gas installations and electrical installations - Approaches, parallel running and crossing between gas mains, gas installations and electrical(abbreviated)	
OEVGW G 29	Electric installations in gas supply systems	
OEVGW G 31	Natural Gas in Austria - Gas quality	
OEVGW G 33	Renewable gases - biogas	
OEVGW G 51	Reconstruction of stem socket mains in gas ducts	
OEVGW GW 52	Training and examination of plastic tube fitters	
OEVGW G 52/1	Construction of gas mains from plastics; part 1: tubes from PVC hard rule for the laying of gas tubes from PVC hard for a working pressure of maximally 100 mbar	
OEVGW G 52/2	Construction of plastic gas mains - Part 2: PE tubes - Guideline for the laying of gas mains from polyethylene for	

	an operating pressure ≤ 10 bar	
OEVGW G 54	Construction of gas mains from ductile cast iron tubes; rule for laying and testing of gas mains from ductile gas iron tubes for working pressure up to 16 bar	
OEVGW G 55	Gas service pipes with an operating pressure ≤ 5 bar	
OEVGW G 57	Crossing of railways, traffic roads and stretches of water with gas mains - Design and installation	
OEVGW G 58	Gas transport lines from steel - Damage appearances - Assessment and treatment of damage appearances on gas transport lines from steel for operating pressures > 16 bar	
OEVGW G 59/1	Surveillance of natural gas mains - Natural gas mains up to 5 bar	
OEVGW G 59/2	Surveillance of natural gas mains - Natural gas mains > 5 bar	
OEVGW G 65	Safety concept with safety report and emergency design for natural gas mains	
OEVGW G 69	Gas detecting of gas mains for tightness	
OEVGW G 73/1	Gas pressure regulation - Part 1: Security rules for construction, testing and operation of gas pressure regulating devices with an inlet pressure > 5 bar up to ≤ 100 bar	
OEVGW G 73/2	Gas pressure regulation - Part 2: Security rules for construction, testing and operation of gas pressure regulating devices with an inlet pressure > 100 mbar up to ≤ 5 bar and for a design volume > 200 m ³ /h in normal conditions	
OEVGW G 73/3	Gas pressure regulation - Part 3: Security rules for construction, testing, operating and maintenance of gas pressure regulating stations with a range of inlet pressure > 100 mbar up to < 5 bar and for a design volume < 200 m ³ /h in normal conditions	
OEVGW G 74	Measurement of gas quantities - Gas volume meters - Measurement of gas quantities by means of turbine and rotary piston gas meters at working pressures up to and incl. 5 bar	
OEVGW G 75	Measurement of gas quantities - Differential pressure gas meters - Measurement of gas quantities by means of orifices (differ. pressure gas meters) at working pressures above 5 bar	
OEVGW G 77	Measurement of pressure and temperature of gases	
OEVGW G 78	Surveillance/maintenance of gas pressure regulating installations	
OEVGW G 79	Odorization of Natural Gas	
OEVGW G 100	Principles of the training courses in the gas subject	
OEVGW G 101	Training and examination of leak detection specialist	
OEVGW G 102	Certificate for gas detecting enterprises	
OEVGW G 103	Gas leak detection and gas concentration measuring devices	
OEVGW G 153/1	Construction of gas mains from steel tubes - Guideline for laying and testing of gas mains from steel tubes for operating pressures ≤ 16 bar	

OEVGW G 153/2	Construction of gas mains from steel tubes - Guideline for laying and testing of gas mains from steel tubes for operating pressures > 16 bar	
OEVGW G 177	Gas charging	
ONR 137340	Industrial valves - Table of possible sorts of tests for industrial valves	
ONR 291555-7	Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE)-Part 7:Guidance for assessment of conformity	
OEVE L 20	Laying of electricity, control and measurement cables	
OEVE/OEN E 8049-1	Protection of structures against lightning - Part 1: General principles	
OEVE E 49	Protection against lightning	
OEVE EX 65	Erection of electrical installations in hazardous areas with regards to explosions (incl. OEVE-EX 65a/1985)	
OEVE EX 65a	Appendix to the provisions with regards to electrical installations in hazardous areas	