

## BUSINESS PLAN

### CEN/TC 235

#### GAS PRESSURE REGULATORS AND ASSOCIATED SAFETY DEVICES FOR USE IN GAS TRANSMISSION AND DISTRIBUTION

#### EXECUTIVE SUMMARY

##### Business Environment

The gas pressure regulators and the associated safety shut-off devices are those used in the gas pressure regulating stations for transmission and distribution complying with EN 12186 and those used in service lines of gas pressure regulating installations complying with EN 12279.

The estimated value of the production within EU of gas pressure regulators and the associated safety shutoff devices in the scope of available ENs prepared by TC 235, is approximately 120 million of € which corresponds about 40÷45 % of the worldwide production value. Further it should be noted that the total value of the stations in which this equipment is used, is about 3.5 times. For this equipment, for the time being, the only existing international standards are the EN standards, i.e. neither ISO nor any other international organization have issued any standard dealing with gas pressure regulators and / or associated safety devices used in fuel gas supply systems.

##### Benefits

- a) Common approach of safety, reliability and efficiency of the equipment used in the fuel gas supply systems.
- b) More confidence of the European citizens in the reliability of means used for public services.
- c) Easier to meet the requirements of interoperability of fuel gas supply grid across the Member States of EU.
- d) Useful support to liberalize the fuel gas sector market that historically has been regulated mainly by national rules / practices.
- e) More competition with advantages for the users.
- f) More transparency on the extension of the duties of all concerned parties (National Authorities, Gas Distributor Operators, Manufacturers, Consumers).
- g) Useful support to export outside EU the European fuel gas technologies which are at top level compared with those used worldwide.

##### Priorities

I. Finalize the harmonization to PED of the revision of EN 334: 2005+A1:2009 (dealing with gas pressure regulators) and of EN 14382: 2005+A1:2009 (dealing with safety shut-off devices).

II. Trace the subjects of a revision and relevant proposals in order:

- to improve their quality by implementing requirements / test method / acceptance criteria as appropriate for the characteristics / performance considered in various parts of the documents, but not detailed in an exhaustive way and
- to deal with all applicable essential health and safety requirements (EHSRs) of the directives PED (EU Directive 2014/68/EU) and ATEX 1 (EU Directive 2014/34/EU), account being taken of the intended use of the equipment.

III. Start up the revision.

IV. Start to approach the inclusion of documents of item II in the ISO system.

## **1 BUSINESS ENVIRONMENT OF THE CEN/TC 235**

The following political, economic, technical, regulatory, legal, societal and/or international dynamics describe the business environment of the industry sector, products, materials, disciplines or practices related to the scope of this CEN/TC, and they may significantly influence how the relevant standards development processes are conducted and the content of the resulting standards.

### **General information on gas transmission and distribution environmental**

Under the thrust of the EU and of the National Authorities, the whole fuel gas supply system is still under a liberalization process. This change has already brought an increasing of the competition between all involved operators and is still pushing to introduce innovation in all concerned equipment and management of the relevant activities.

The main follow-up of above approach can be synthesized in “a common approach of the safe” and “a strong standardization of the equipment” to benefit from the scale economy.

In this context it should be noted that even if the weight of the value of pressure regulators and associated safety shut-off devices compared with the total value of stations is not very important, the safety of the system is mainly liaised to the performance of this equipment.

In the past one specific follow-up of the standardization need, has brought the fuel Gas Systems Operators, through their European Association (MARCOGAZ), and the Manufacturers, through their European Association (FAREGAZ), to ask to CEN to issue European standards on pressure regulators and associated safety shut-off devices. Subsequently the fuel Gas Systems Operators are not involved in other standardization activities on the same subjects.

The first editions of the European standards on pressure regulators has been issued in 1999 and the one dealing with associated safety shut-off devices in 2002 (on the basis of a specific proposal prepared by MARCOGAZ together with FAREGAZ) and subsequently both standards have been harmonized to PED (EU Directive 97/23/EC) in 2005 and further amendment in 2009.

The main task of the in-process amendments of both ENs is to include, in the harmonized part, also some available innovations in the construction of both gas pressure regulators and of associated safety shut-off devices.

### **Categories of relevant stakeholders**

The categories of the stakeholders interested in drafting works of the products in the scope of TC 235 are:

- the users i.e. the fuel Gas Systems Operators of the gas pressure regulating stations for transmission and distribution systems,
- the manufacturers and
- the public Authorities when establishing national regulations dealing with the safety of national fuel gas distribution systems.

### **Other relevant international standards or voluntary initiatives**

For the time being there are not any other international standards dealing with this equipment, either in the ISO system or in any other organization (ASME, API, ANSI, etc.) well known worldwide.

For the above reason, very often Gas Distribution Operators outside EU make reference to EN 334 / 14382 in their tenders.

Some other Countries outside EU are introducing in their national regulations reference standard for fuel gas supply equipment, practically equivalent to ENs (e.g. the People's Republic of China is revising its existing national standard GB 16802 – 1997 on the basis of EN 334:2005).

## Other regulatory and legal issues with reference to existing and planned European Directives

Considering that:

- Directive ATEX 1 (2014/34/EU) deals also with electric and non-electric equipment,
- very often the gas pressure regulators and associated safety shut-off devices are put in the market with some electric accessories,

it seems convenient to implement also some provisions on this specific subject in order to facilitate the fuel Gas Systems Operators of the gas pressure regulating stations to apply the provisions of the Directive ATEX 2 both to equipment out from the scope of the Directive ATEX1 and to equipment incorporating some electric / electronic accessories.

Further the EC in the revision of PED, is considering to approach the in-service surveillance to avoid the tendency to impede the free circulation of pressure equipment as the consequence of the varieties of existing national rules. On this specific matter it is useful:

- to include also in EN 334 the provisions already included in the in-process amendments for EN 14382:2005 and
- to improve the provisions on the matter in both documents.

### 1.2 Quantitative Indicators of the Business Environment

The following list of quantitative indicators describes the business environment in order to provide adequate information to support actions of the CEN /TC 235:

Considering that the “public feeling” and the public Authorities are looking for all ways to reduce the air pollution in using the energy, as the natural gas is one of the preferred energy that can keep to the minimum the level of air pollution, it is expected an increasing of gas consumption both within and outside EU. In this context, all concerned parties can benefit from the ENs dealing with fuel gas equipment.

The estimated value of production in 2006 within EU of pressure regulators and associated safety shut-off devices in the scope of EN 334 and EN 14382, was about 120 million of €. Only few % of the turnover has been imported from areas outside the EU; about 35% of this turnover has been exported out from EU.

It is estimated that the production outside the EU can be not less than 140 % of the turnover inside the EU.

The fuel Gas Systems Operators can be split in two types, Gas Transport Companies and Gas Distribution Companies. In general the Gas Transport Companies are big companies; sometime they are controlled by the States. At the moment in some EU countries there is only a company who provides for the transport of fuel gas and it acts as the only user company for the products in the scope of CEN/TC235. In general the Gas Distribution Companies are small, medium or big companies; sometime they are controlled by the Municipalities and sometimes by the State.

In general all Manufacturers Companies are small or medium companies. Some of them manufacture also the assemblies where the products are used; some other manufacture also other products not exclusively used in the gas field. The larger Manufacture Companies are located in France, Germany, Italy and UK; other smaller Manufacturer Companies are located in other Member States of the EU.

Either pressure regulators and associated safety shut-off devices in the scope of EN 334 and EN 14382 are in the scope of PED, therefore all products put in the EU market are declared conform

with PED via the two harmonized standards or via a risk analysis addressed to PED. In this last case the drafts of the in-process harmonized standards have been used as useful work tool. Further the National Authorities of some Member States of EU have already included in their regulations the reference to the available ENs prepared by TC 235 and some other are considering to do it.

The ENs of equipment in the scope of TC 235 are used as reference document by CEN/TC 234, because of the pressure regulators and the associated safety shut-off devices are those used in the gas pressure regulating stations for transmission and distribution complying with EN 12186 and those used in service lines of gas pressure regulating installations complying with EN 12279 under the scope of TC 234 itself.

Because of, for the time being, EN 334 and EN 14382 are the only available worldwide international standards dealing with pressure regulator and associated safety shut-off devices used in fuel gas supply systems, several countries out from EU are using these ENs as reference documents in the trades and/or as national regulation. The last countries that followed this approach are India, Korea and People's Republic of China (as said before the Minister of Construction of the People's Republic of China is revising, on the basis of EN 334:2005, the national standard GB 16802 – 1997 dealing with pressure regulators).

## **2 BENEFITS EXPECTED FROM THE WORK OF THE CEN/TC 235**

It is useful to take in mind that the pressure regulators and associated safety shut-off device in the scope of TC 235 are considered as "standard pressure equipment" therefore within the scope of PED as per the provisions in its article 1, paragraph 3.1 and that the pressure reduction stations, where they are installed, are out from the scope of PED. Therefore is very difficult to apply the essential safety requirements (ESRs) of PED to the equipment used in the fuel gas supply systems.

The expected benefits from the ENs in the scope of TC 235 can be summarized as follows:

- Share a common interpretation on the applicable ESRs of PED, to avoid any distortion of the market.
- Create the pre-conditions to support cost saving by the scale economy obtainable from the European standardization of the requirements and from an increase of the competition on transparent common basis.
- Introduce a common approach of the safe protection against exceeding the maximum incidental pressure in the downstream fuel gas grid. This performance is very important in the context of Interoperability either of national fuel gas grid or in the context of incoming interoperability of the fuel gas grid across the EU Member States.
- Credible support to convince Authorities and citizens that the approach of the safety according to the ENs is one of most reliable.
- Support some ENs prepared by CEN/TC 234.
- Support the implementation of New Approach Directives. The available editions 2005 plus Amendment of 2009 of both EN 334 and EN 14382 have been already cited in the official Journal of the EU under the Directive PED.
- Therefore the conformity with above ENs confers presumption of conformity with Essential Requirements of that Directive.
- Credible support to export the European technologies on fuel gas supply systems, because of the ENs are perceived as reliable and transparent documents on the European fuel gas technologies which can ensure safety, efficiency and continuity of the fuel gas supplying also when some failures / faults have occurred.

### 3 PARTICIPATION IN THE CEN/TC 235

All the CEN national members are entitled to nominate delegates to CEN Technical Committees and experts to Working Groups, ensuring a balance of all interested parties. Participation as observers of recognized European or international organizations is also possible under certain conditions.

To participate in the activities of this CEN/TC, please contact the national standards organization in your country.

## 4 OBJECTIVES OF THE CEN/TC 235 AND STRATEGIES FOR THEIR ACHIEVEMENT

### 4.1 Defined objectives of the CEN/TC 235

It has been necessary to extend the harmonized part of edition 2009 of harmonized standards EN 334 and EN 14382. In particular, following items have been included.

EN 334:2005+A1:2009:

- The closing force for stand-by monitor when classified as safety accessory to PED as already done for SSD when classified as safety accessory to PED;
- Antistatic characteristics;
- Statistical strength test on the basis of PED provisions;
- Definition of Cg flow coefficient and an improvement of KG flow coefficient by adding the definition / test method / notice of its limits;
- An improvement of the functional performance classification;
- Vent limiter as possible fixture to be assembled in the pressure regulators.

EN 14382:2005+A1:2009:

- Two in series SSDs as safety accessory to PED;
- The full reference to EN 334 for end connections, flange ratings, nominal and face-to-face dimensions, materials, verification of strength of pressure containing parts;
- Harmonization of the concerned part of the text on fail-close conditions with the provisions of EN 12186;
- Antistatic characteristics;
- Statistical strength test as per EN 334;
- Vent limiter as possible fixture to be assembled on SSDs.

Since the last TC235 Plenary Meeting

- Test at -10 °C and at -20 °C
- Amendment to Materials EN 14382 (link to EN 334)
- Amendment to SSD Class B: classify class B SSDs as safety accessories by introducing requirements and test procedure for Strength of elastomer diaphragms
- Integration of Environmental Requirements
- Updated of Annex G – Materials
- Moving Table 8 (Elastomers) to Annex J
- including the received comments.

TC 235 has already approved the above extensions as amendments of available editions of 2009 of both ENs.

#### **4.2 Identified strategies to achieve the CEN/TC 235 defined objectives.**

CEN/TC 235 achieves its objectives by regular work in the WG 1, supported by Plenary and ad hoc group (AHG), including the Chairman and Secretary of TC 235, the Convenor and Secretary of TC 235/WG1 and especially the Resolutions taken by correspondence.

Further strategies to increase the effectiveness and reduce the cost of the TC 235 drafting works:

- Strong co-operation with the Stakeholders;
- Close exam of the trend in every EC documents dealing with gas sector;
- Careful exam of the trend in every CEN/TC 234 documents liaised with the equipment in the scope of TC 235;
- Liaisons with other TCs to avoid any overlap / discrepancies / conflict.  
For the time being liaisons with following TCs / stakeholders have been established:  
CEN/TC 181; CEN/TC 69, ISO/TC 161, CEN/TC 58, CEN/TC 208, CEN/TC 408, CEN/TC 234, MARCOGAZ;
- Ask the TC 235 Members to appoint for WG1 experts for each subject under consideration;
- Use, where useful, of all available international documents as basis of TC 235 deliverables;
- To avoid discrepancies between the various documents prepared by TC 235 and to consider the impact of the ENs prepared by TC 235 on other ENs and specifically on those prepared by TC 234
- Use only the English language in all documents and in the meetings.

The priorities of the projects are as in the following listing order:

- I. Finalize the Revision of the EN 334 and 14382: 2009;
- II. Approach the inclusion of EN 334 and of EN 14382 in the ISO system.

#### **Expected deliverables**

WIs already approved by TC 235 and relevant proposals are to be delivered to CEN/CMC to approach ENQ+FV the proposals for:

- EN 334:xxxx
- EN 14382:xxxx

#### **4.3 Environmental aspects**

CEN/TC 235 is committed with environmental aspects during the annual plenary meetings and draws the attention of its substructure on how to address these issues within their field and responsibility.

TC 235/WG 1 will deal with the environmental issues associated with their work when drafting new or revising existing standards.

Maximum commitment will be undertaken by the TC in taking care on environmental aspects using the tools provided by CEN (Guide 4, Environmental Checklist, CEN/EHD etc.).

### **5 FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE CEN/TC 235 WORK PROGRAMME**

Experts resources: following to the re-organization of all companies involved in the fuel gases sector to answer the liberalization of the market, it is currently difficult to engage experts to develop the drafting works.

Further it is not easy to find consensus between various parties concerned, also because of historically the fuel gases sector has been extensively regulated by national and/or companies' regulation / practice.