

Case study

Safety of Gas Plants

Country: Italy

Level: National

SDG Addressed: SDG7 – Affordable and Clean Energy

Summary

Italy has identified this specific case relating to gas plants due to the relevance of it being a well-working and long-lasting synergy and partnership between legislation and standardization. Since technical standards support the regulations in this sector while keeping their voluntary status, they provide a “co-regulation” tool which is valid and relevant not only at the national level but at any level.

Background

The gas sector has been covered by legislation in Italy for a long time, in particular by means of a specific Ministerial Decree: the DM 37/2008 (formerly Law n. 46/1990). Such a Decree clearly states that gas plants are to be designed and made “according to the state-of-the-art” and “they can comply with product and installation standards adopted both in the EU context (such as EN standards) and at national level through the standards issued by UNI, the National Standards Body”.

Strategy

There are three main UNI standards covering gas sector and gas plants in particular:

The “milestone” is represented by the UNI 7129 “Gas plants for domestic use and alike fed by supply network – Design, installation and application”, which was issued for the first time in 1972 and has been constantly revised and updated, in accordance with the technological changes of this sector. It covers gas plants having a thermal power not over 35 Kw, is divided into 5 specific parts and its last revision dates back to 2015. Each part of this standard is completed by a specific application manual aimed at installers, which offers very detailed instructions and guidance.

In 2014, just before the last revision of the standard mentioned above, UNI issued another relevant

standard, UNI 11528:2014 “Gas plants having a thermal power over 35 Kw – Design, installation and application”. This is complementary to UNI 7129 and filled a normative gap that had lasted for a quite long time. This standard too is completed by an application manual, in support to all those involved in using and installing this kind of plants. It offers very detailed instructions and provisions about the location and the installation of the relevant equipment, the internal plant, the characteristics of the place they are installed in, the evacuation of the combustion products, and the condensation drainage systems and the starting up of the plant.

The last standard worth being mentioned in this context is the UNI 8723:2017 “Safety provisions for professional hosting of communities and alike”, which sets out the criteria for the design, the installation, and the operation of plants built and aimed at this kind of framework.

Results and Impact

The systematic use and resort to standards in support of safety in the gas sector has given so far the following results and main benefits:

- Simplification of the legislative process
- Increased transparency in the preparation of documents and deliverables
- A fast and timely updating process of documents and deliverables
- Definition of rules shared with stakeholders
- Definition of a well-defined framework for the players in the supply chain
- Less disputes

Challenges and Lessons Learned

An effective and efficient monitoring and checking system on site.

Potential for Replication

This system can be readily accepted and replicated by any other country; it is mainly concerned about making a direct reference to specific technical standards or mentioning them to meet legislative requirements. By meeting these requirements, the plants will be manufactured in compliance and conformity with standards that are meant to be state-of-the-art. For this reason, any other country aiming to achieve the same aims, will be successful if it follows the guidelines set by said standards.