

INFORMATIVE NOTE ON GAS EMERGENCIES

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1. Introduction

The European Gas Industry has the responsibility to operate pipelines and other gas infrastructure facilities in a safe and reliable way minimising the probability of critical situations. Excellent incident records are the results of a long tradition of proactive safety attitude. By making use of the latest technologies and innovations, the Gas Industry believes it is possible to improve continuously the excellent level of pipeline safety and continuity of supply.

Gas Industry standards and regulations recognise the need for gas pipeline operators to have appropriate standby measures in place in order to respond to failures of gas pipelines and other gas infrastructure facilities. Such failures may result in loss of gas with the potential for injury and loss of life as well as disruption of gas supplies. This document provides some definitions and classification of these gas emergency scenarios. It has been developed by MARCOGAZ to support meaningful discussion on this topic between pipeline operators; Regulators, competent Authorities and other Organisations addressing these issues.

2. Gas Emergencies

Gas Emergencies fall into two basic categories:

- a) **Safety issue: Gas Emergencies resulting from a loss of containment** of the gas due to a failure of gas pipeline, storage or equipment. This will result in release of gas that may or may not ignite. For these types of incidents there is the potential for casualties to occur at the site of the incident and/or wider consequences such as the large scale disruption of major traffic routes.



The Operators and Authorities response will focus on:

- The safeguarding of life and property at location of incident;
 - Controlling and minimising the gas release;
 - Ensuring the continuity of gas supplies to customers connected to the network, taking the priorities (e.g. protected customers) into account defined in National Laws and Regulations;
 - The subsequent repair and restoration of the damaged pipeline.
- b) **Security of supply issue: Gas Emergencies due to unbalanced gas supplies** with no loss of containment. Insufficient gas supplies could be caused by a number of reasons including: constraints on production and storage sites during periods of high demand, transportation constraints on the pipeline system, for example a failure at a gas compressor station or contractual and/or geopolitical disputes.

The response of the Operator, the Authorities and other key stakeholder groups such as Gas Shippers to these types of incidents will be focused on:

- Managing and where practical maintaining gas supplies to gas consumers, taking the priorities (e.g. protected customers) into account defined in national laws and regulations;
- Restoration of gas supplies to consumers whose gas pressure has been lost. This will require the managed re-commissioning of gas appliances prior to supply restoration.

The possible impact of Gas Supply Emergencies are dependent on the nature of the failure and the location and may involve a few customers up to hundreds of thousands and in some extreme cases millions of customers being affected. Gas Supply Emergencies can also have an impact on gas supplies to customers in neighbouring Countries. Arrangements are in place to ensure the safe management of gas supplies in the case of a Gas Supply Emergency where there are a number of pipeline operators connected to a gas network. Gas Supply Emergencies may over extended periods of time raise concerns:

- if cooking and heating is not available to vulnerable members of the public during cold winter days;
- if a gas supply failure has a consequential impact on power supplies or plant depending on this unique resource;
- if the restoration of gas supplies is not correctly managed when gas becomes available.

If Gas Supply Emergencies have affected a large number of customers restoration of supplies is resource demanding. The following table gives some suggested categorisations¹ for Gas Supply Emergencies.

Gas Supply Emergency (GSE) Classification	
International Gas Supply Emergency (IGSE)	An IGSE is any situation within a Country, which has resulted in, or could result in, a loss of pressure to consumers in one or more neighbouring Countries. The IGSE would normally be caused by insufficient gas supplies being available or a critical transportation constraint within the Transmission system.
National Gas Supply Emergency (NGSE)	An NGSE is any situation caused by insufficient gas supplies available or a critical transportation constraint within the Transmission system within a Country which has resulted in a widespread loss of pressure to consumers affecting more than one region of the Country. The consequences of the failure of gas supplies being limited to that Country.
Local Gas Supply Emergency (LGSE)	An LGSE is any situation caused by insufficient gas supplies within a Gas Distribution system or a critical transportation constraint within the Distribution system within a Country which has resulted in a loss of pressure to a significant number of consumers. The consequences of failure are however limited to a Distribution Network or local region within that member Country.

Note: an IGSE could result in a NGSE and similarly a NGSE could result in an LGSE.

¹ Regulation, 994/2010, concerning measures to safeguard security of gas supply and repealing Council Directive 2004/67/EC, art 10(3) defines 3 levels of crisis depending on the severity of the supply disruption: Early warning, Alert and Emergency.

3. Failures On Gas Installations

Failures on Gas Installations including:

- terminal installations where the gas comes onshore;
- gas storage installations;
- gas compressor installations (pumping stations);
- and pressure reduction installations.

can also, depending on the nature of the failure, lead to LGSE and/or an NGSE as described above, and in some extreme cases IGSE.

4. Responding to Gas Emergencies

As stated in the European standard "EN 1594:2013 Gas infrastructure – Pipelines for maximum operating pressure over 16 bar – Functional requirements" and other applicable standards and guidelines all pipeline operators have an organisation which is ready at all times to rectify breakdowns and to deal effectively and responsibly with incidents and emergencies. This organisation is provided with the necessary materials, equipment, tools, documentation as well as efficient communication systems.



The pipeline operators represented provide suitable local / national / international training to ensure that all parties involved in responding to pipeline gas emergency understand their roles and responsibilities and are suitably competent to undertake these roles.

All the MARCOGAZ pipeline operators have documented emergency plans.

Prevention of incidents has a very high priority in the Gas Industry however emergencies can take place. Companies in close co-operation with competent Authorities are prepared to deal with emergencies in a competent way.



marcogaz

Technical Association of the European Natural Gas Industry
27 Member Organisations in 21 countries

marcogaz
TECHNICAL ASSOCIATION
OF THE EUROPEAN NATURAL GAS INDUSTRY

Avenue Palmerston 4
1000 Brussels
BELGIUM
T: +32 2 237 11 39
www.marcogaz.org

For more information please contact:

Created in 1968, MARCOGAZ is the Technical Association of the European Natural Gas Industry. It has developed over the years an efficient reputation with the official bodies in the European Union and other industry partners.

- MARCOGAZ chief mission is to serve its Members as the European window for any technical issue regarding natural gas.
- As the representative organisation of the European Natural Gas Industry, it aims at monitoring and taking influence when needed on European technical regulation, standardisation and certification with respect to safety and integrity of gas systems and equipment and rational use of gas.
- Environment, Health and Safety issues related to natural gas systems and utilisation are also of paramount importance for MARCOGAZ