

**Draft Framework Guidelines on
Interoperability and Data Exchange Rules for European Gas Transmission Networks**

For Public Consultation

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This Document contains the draft Framework Guidelines on Interoperability and Data Exchange Rules for European Gas Transmission Networks, which the Agency for the Cooperation of Energy Regulators has developed pursuant to Articles 6 of Regulation (EC) No 713/2009 and of Regulation (EC) No 715/2009 and pursuant to the request of the European Commission of 31 January 2012.

Related Documents

- Agency Framework Guidelines on Capacity Allocation Mechanisms for the European Gas Transmission Network of 3 August 2011 (FG-2011-G-001).
- Agency Framework Guidelines on Gas Balancing in Transmission Systems of 18 October 2011 (FGB-2011-G-002).
- Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005, OJ L 211/36 14/08/2009.
- European Commission Mandate to CEN for standards for biomethane for the use in transport and injection in natural gas pipelines of 8 November 2010 (M/475).
- European Commission Mandate to CEN for standardisation in the field of gas qualities of 16 January 2007 (M/400).
- ENTSOG Technical paper on the injection of biogas into the natural gas networks (INT010-10_Rev FINAL)
- EASEE¹-gas CBP 2005-002/02 Interconnection Agreement
- EASEE-gas CBP 2005-001/02 Gas Quality Harmonisation
- EASEE-gas CBP 2003-002/02 Harmonisation of Nominating and Matching Process
- EASEE-gas CBP 2007-006/01 Harmonisation of the Allocation Information Exchange
- EASEE-gas CBP 2003-003/02 EDIG@S Protocol
- EASEE-gas CBP 2005-003-01 Constraints
- EASEE-gas CBP 2003-001-01 Harmonisation of units.

¹ European Association for the Streamlining of the Exchange of Energy Gas

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1. General Provisions

a. Introduction

Operational, technical, communications and business interoperability is a prerequisite for the well-functioning and the integration of energy markets. The absence of such interoperability in the European Union is likely to create obstacles to the creation of an integrated, competitive internal European market for energy, especially in view of the 2014 objectives, as expressed by the European Council².

As part of the on-going effort to eliminate the barriers to the free flow of gas in Europe, the present Framework Guidelines on Interoperability and Data Exchange Rules for European Gas Transmission Networks (the 'Framework Guidelines') identify areas where increased harmonisation of technical, organisational, communication, as well as business rules and practices, will foster market integration. Such harmonisation is expected, in particular, to enhance cooperation among transmission system operators ('TSOs'), as well as between TSOs and gas transmission network users. The Framework Guidelines aim at setting clear and objective principles for the development of a Network Code on Interoperability and Data Exchange rules (the 'Network Code'), pursuant to Articles 6(2), 8(6)(d) and 8(6)(e) of Regulation (EC) No 715/2009 (the 'Gas Regulation')³.

The overall aim of *interoperability* is to ensure that users of two or more transmission systems operated by separate entities in Europe do not face technical, operational, communications⁴ or business-related barriers higher than those that would have been reasonably expected, if the relevant networks had been efficiently operated by a single entity.

The aim of *data exchange* rules is closely linked to that of interoperability. By addressing specifically the harmonisation of the communication formats among market participants, the data exchange rules set out to streamline the practises in that area and facilitate technical, operational or business related communications.

b. Scope and application of the Network Code

The Network Code developed on the basis of these Framework Guidelines will apply to TSOs, with the aim to reach full market integration. LNG operators and storage operators shall facilitate interoperability and support the provisions related to TSOs laid down in these Framework Guidelines⁵.

² European Council of 4 February 2011, Conclusions, where the target for the completion of the internal market is set for 2014, "so as to allow gas and electricity to flow freely" across the European Union.

³ Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation 1775/2005, OJ L 211/36 14/08/2009.

⁴ As explained further in the paragraph below on data exchange

⁵ In line with Article 15(1) (b) of the Gas Regulation.

TSOs and Distribution System Operators ('DSOs'), shall cooperate in developing and implementing the Network Code. The Network Code will apply directly to DSOs in the situation described in recital 6 of the preamble of the Gas Regulation, referring to high pressure distribution lines that fall into the scope of the Regulation. In such exceptional cases, harmonisation of the roles of the concerned DSOs will take place only to the extent deemed necessary for the implementation of the principles set out in these Framework Guidelines.

The Network Code developed by the European Network of Transmission System Operators for Gas (ENTSOG) is addressed to the TSOs.

Pursuant to Article 6(7) of the Gas Regulation and Article 6(4) of Regulation (EC) No 713/2009 (the 'Agency Regulation')⁶, the Network Code adopted according to these Framework Guidelines will be evaluated by the Agency. In doing so, the Agency shall consider the degree of compliance with the Framework Guidelines as well as the fulfilment of the overall objectives of the internal energy market, including maintaining security of supply, supporting the completion and functioning of the internal market in gas and cross-border trade, including delivering benefits to the consumers.

c. Objective

The overarching objective of the Network Code is to promote the harmonisation of rules for the operation of transmission systems in order to encourage and facilitate efficient gas trading and transport across gas transmission systems within the EU, and thereby move towards greater internal market integration. The specific objective of the Network Code is to define consistently harmonised technical, operational, communication rules and rules for business conduct that will allow the achievement of the objectives as set out in the Framework Guidelines, as well as the Third Energy Package. Interconnection Agreements, unit harmonisation, gas quality and odourisation, capacity calculation and data exchange are areas where barriers have been identified by the Agency and for which a common approach based on harmonised rules could smooth the interoperation of the systems, including communication.

The technological underpinnings of the interoperability and data exchange rules are subject to constant change. Consequently, the operational, communications and business practices follow these developments. For that reason, the Framework Guidelines shall set out generic principles and requirements, to be implemented in detail by the Network Code, thus providing the required flexibility.

⁶ Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators, OJ L 211/43, 14.08.2009.

d. Definitions

For the purpose of these Framework Guidelines the definitions of the Directive 2009/73/EC⁷ (the ‘Gas Directive’), of the Agency Regulation and of the Gas Regulation shall apply, in addition to the following definitions:

- **Data exchange**
This covers the exchange of all necessary information among TSOs, as well as from TSOs to counterparties (including platforms) according to the provisions of the Network Code.
- **Entry-exit system⁸**
In an entry-exit system, gas can be traded independently of its location in the system, with the possibility for network users to book entry and exit capacity independently, creating gas transport through zones instead along contractual paths.
- **Interconnection point**
A cross-border interconnection point, whether it is physical or virtual, between two or more Member States as well as interconnection between adjacent entry-exit-systems within the same Member State, insofar as these points are subject to booking procedures by network users.
- **Interconnection Agreement**
An agreement by and between adjacent TSOs, whose systems are connected at a particular Interconnection Point, which specifies terms and conditions, operating procedures and provisions, in respect of delivery and/or withdrawal of gas at the Interconnection Point with the purpose of facilitating efficient operation of interconnection points.
- **Interoperability**
In general, interoperability is the ability of two or more systems operated by different entities to exchange natural gas and work in a compatible and efficient mode. Interoperation of TSOs shall include their ability to assure the seamless and efficient execution of transmission system operations and business transactions between TSOs and their clients (network users), in a manner of conduct which may reasonably be approximated to the conduct of transmission system as if operated by a single entity.
- **Operational balancing agreement**
An Operational balancing agreement leads to the establishment of an operational balancing account between two TSOs with a view to mitigate and handle operational imbalances stemming from a difference between physical gas flows and confirmed scheduled quantities at an interconnection point.

⁷ Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas repealing Directive 2003/55/EC, OJ L 211/94, 14.8.2009.

⁸ See Gas Regulation, recital 19.

e. Implementation, transitional period and monitoring

For its implementation by the TSOs, the Network Code shall foresee that the TSOs shall comply with its requirements within 18 months after its adoption, unless otherwise specified elsewhere in these guidelines⁹. Such compliance includes the adaptation of existing contracts and agreements.

Within three months after the adoption of the Network Code, each TSO shall prepare a report on which the market is consulted and subsequently submit it to ENTSOG, the NRAs and the Agency. The report shall set out in detail the specific measures that will allow full compliance with the Network Code.

The conduct of an assessment and a public consultation shall not hinder the implementation of the Network Code, pursuant to the provisions of the Gas Directive, the Gas Regulation and the present Framework Guidelines.

The Network Code shall require TSOs to inform in due time all concerned counterparties on the possible consequences the implementation of the network code may have on their activities, providing them reasonable time to adapt their practices accordingly.

These Framework Guidelines and the Network Code developed on their basis are without prejudice to the possibility for Member States to put in place additional gas matching or other interoperability arrangements that shall apply during an emergency (as defined in Article 10(3)(c) of Regulation (EU) No 994/2010¹⁰). Some guidance on these additional arrangements is already provided in that regulation and more guidance may be provided in a Network Code on operational procedures in an emergency.

2. Interconnection Agreements

Interconnection Agreements shall contain the provisions necessary to facilitate business and operational procedures between adjacent TSOs. Individual interconnection agreements shall be established on a mandatory basis by all concerned TSOs at all interconnection points.

As a general requirement, Interconnection Agreements shall be based on the following criteria:

- No restriction to cross-border trade;

⁹ e.g. section 5.

¹⁰ Regulation 994/2010 of the European Parliament and of the Council of 20 October 2010 concerning measures to safeguard security of gas supply and repealing Council Directive 2004/67, OJL 295/13, 12.11.2010.

- Promotion of the development of competitive and liquid markets at both sides of the interconnection points.

The Network Code shall specify that Interconnection Agreements are communicated to the concerned NRAs upon establishment and amendment, and at the NRAs request.

Should a TSO request it, a dispute resolution can take place with the involvement of the concerned NRAs. If NRAs cannot agree on a common position, the Agency will take necessary measures, according to the relevant provisions of the Agency Regulation.

The Network Code shall outline a framework for Interconnection Agreements, including a minimum set of requirements, to be understood as a “model template” setting a mandatory basis for such agreements.

Furthermore, the Network Code shall provide for a “standard Interconnection Agreement”, setting rules on each of the above topics, to be used as a default agreement, should the TSOs fail to reach mutual agreement on any of these, within a period of 12 months.

For both the model template for interconnection agreements and the standard interconnection agreement, the Network Code shall address the following aspects:

- **Development and Modification of interconnection agreements:** The Network Code shall establish how interconnection agreements are to be elaborated between TSOs and shall outline a transparent process for the modification of such agreements.
- **Rules for flow control:** The Network Code shall set out the rules that require TSOs at the interconnection points to agree on the timing, direction and procedures for flow control.
- **Measurement principles of gas quantities and quality:** The Network Code shall ensure that interconnection agreements include provisions on methods and procedures for the measurement of gas quantities and quality, including harmonised conversion factors, as well as rules for the handling of differences in measurement and measurement corrections.
- **Matching:** The Network Code shall require that Interconnection agreements include detailed guidelines regarding communication on the matching process between TSOs, as well as between TSOs and the relevant capacity booking platforms, with a view to assuring that confirmed quantities of gas are equal on both sides of the interconnection point. The Network Code shall define rules applicable to cases of mismatch, whereby the mismatch is either eliminated or otherwise reasonably resolved at the lowest cost for TSOs and users.

- **Rules for the allocation of gas quantities:** the Network Code shall require TSOs to cooperate and provide where necessary for consistent rules in the allocation of gas quantities to shippers in the interconnection point at both sides, as well as the solutions for managing gas quality differences, as detailed in section 4 below. Furthermore, the Network Code shall require TSOs to agree on business rules linked to the handling of operational imbalances, with an Operational Balancing Agreement as a standard preferred option.
- **Exceptional events:** the Network Code shall include provisions on the way in which TSOs establish contact with their counterparts as well as with network users and coordinate necessary actions in case of an exceptional event. The Network Code shall in particular define the content and timing of information to be exchanged.
- **Dispute resolution between TSOs:** the Network Code shall outline a dispute resolution procedure between TSOs.

TSOs should be free to cover additional issues to those mentioned in the model template.

With the objective of ensuring consistency and a high level of harmonisation across Member States, the Network Code shall provide clear guidelines on the level of detail and the content to be covered by the individual interconnection agreements.

3. Harmonisation of Units

A lack of harmonisation with regard to the units used by infrastructure operators and network users along the gas value chain may constitute a barrier to cross-border trade. The Network Code shall determine the use of harmonised units for energy, volume, pressure and gross calorific value, for the TSOs to use when communicating to counterparties.

Where the harmonisation of units has already been covered by EU legislation¹¹ or in a Network Code, the Network Code shall not duplicate these provisions, but may propose stricter application in line with these Framework Guidelines.

4. Gas Quality

The European Commission has committed to develop a Roadmap for Gas Quality. Without prejudice to the outcome of this process, the Network Code shall propose rules to reinforce transparency as well as the cooperation of TSOs on the issue of gas quality.

¹¹ See, for instance, Commission Decision of 10 November 2010 amending Chapter 3 of Annex I to Regulation 715/2009 of the European Parliament and of the Council on conditions for access to the natural gas transmission networks (2010/685/EU), OJL 293/67, 11.11.2010.

The Network Code shall specify that adjacent TSOs agree where necessary on the handling of gas quality differences at each side of a given interconnection point. The Network Code shall require that TSOs closely cooperate on either side of the border and work out technically feasible and financially reasonable solutions to handle gas quality. Possible solutions might include, but shall not be restricted to, swapping, co-mingling and flow commitments. The solutions shall be such that they support the removal of barriers to cross-border trade resulting from the variations of different gas qualities. TSOs shall jointly determine the solutions affecting cross-border trade based on a cost-benefit analysis and submit them for the approval of the relevant NRAs¹², following a consultation with the market.

The Network Code shall oblige TSOs to provide relevant network users with pertinent information on Gas Quality and variations thereto. The Network Code shall classify the cases where it is necessary or useful to provide further information to end-users on fluctuations of gas quality in order to allow preventive action. The Network Code shall identify the relevant information, and how frequently this information shall be provided for network users to possibly handle gas quality variations.

Disputes will be settled as described in the Interconnection Agreement section.

Within the Ten Year Network Development Plan, ENTSOG will include an outlook reviewed every two years on the possible changes in gas quality within the major European regions for the next 10 years.

5. Odourisation

If bilateral agreements fail to address effectively issues relating to differences in odourisation practices, the Network Code shall ensure that odourisation takes place so as not to hamper cross-border trade by allowing physical cross-border flows of non-odorised gas, as a default rule. The Network Code shall foresee an interim period of 36 months for the implementation of the measure.

Disputes will be settled as described in the Interconnection Agreement section¹³.

6. Data exchange

As far as capacity bookings and the transfer of capacity rights between network users are concerned, the Framework Guidelines on Capacity Allocation Mechanisms do already require

¹² Articles 40 and 41 of the Gas Directive.

¹³ Section 2 *supra*

the respective Network Codes to define standard communication procedures, based on coordinated information systems and compatible electronic on-line communications.

Framework Guidelines on Interoperability and Data Exchange Rules will now extend the harmonisation process to all other areas where TSOs exchange data between each other or communicate data to counterparties. The Network Code shall foresee a common, standardised messaging protocol and the respective technical standards for the reliable, secure and smooth exchange of information among TSOs, as well as from TSOs to relevant counterparties.

The selection of such format by ENTSOG shall be based on a cost-benefit analysis subject to consultation with industry. This analysis, as well as the subsequent selection process of the format will take into account in particular the following considerations:

- best available technologies, particularly in terms of security and reliability;
- the actual spread and standard communication path of the formats considered;
- the volume of data traffic required to transit information;
- the costs of first introduction;
- the potential discrimination of small shippers or new market entrants;
- the synergy and compatibility with current electricity data exchange rules;
- the compatibility with other formats and communication paths.

7. Capacity calculation

Any discrepancy between the maximum capacities on either side of an interconnection point, as well as any unused potential to maximise capacity offered, may cause barriers to trade. For these reasons, the Network Code, with a view to ensuring the maximisation of the offered capacity, shall require the following measures on both sides of an interconnection point:

- a) TSOs shall provide a detailed and comprehensive description of the methodology and process, including information on the parameters employed and the key assumptions, used to calculate the technical capacity according to Commission's Decision 2010/685/EU¹⁴
- b) Adjacent TSOs shall cooperate to reduce discrepancies with regards to capacity offered at either side of an interconnection point, including cooperating on extreme network scenarios.
- c) The Network Code shall also provide a procedure for identifying, and reasonably dealing with any discrepancies, as defined above. This procedure shall give priority to interconnection points presenting congestions or major discrepancies, with a view to reach full use of potential to maximise capacity offered.

¹⁴ n.8

- d) ENTSOG shall provide a reasonable timeline for capacity discrepancy reduction which is consulted with stakeholders. ENTSOG shall also provide a comprehensive report on capacity discrepancies and the measures taken to reduce those. The Agency shall receive this report on a yearly basis.

The Network Code shall define rules for TSOs, for the update of their calculation of available and technical capacity with a minimum requirement of quarterly updates for technical capacity.

Disputes will be settled as described in the Interconnection Agreement section¹⁵.

8. Cross-border cooperation

The Network Code shall require relevant TSOs to apply their general mandate for cooperation in order to achieve the integration of European gas markets in the area of interoperability and data exchange, by adopting and implementing the relevant harmonised rules in a timely, technically feasible and economically reasonable manner. ENTSOG shall regularly review the best practices for cooperation of network operations.

ENTSOG shall make recommendations for improvement of the interoperability and data exchange rules. In addition, ENTSOG may seek an opinion or a recommendation from the Agency, based on the provisions of the Agency Regulation.

¹⁵ Section 2 *supra*