

ERGEG gas regional initiative

North and North-West regional energy market (REM) project

Definition of workstream

Draft

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GAS QUALITY AND (ITS EFFECT ON) INTEROPERABILITY

Issues and challenges

An end customer is supplied with different types of natural gas, coming from various sources. Within the North – North West region, a first distinction is made between low calorific natural gas (low-cal gas) and high calorific natural gas (high-cal gas). These two categories of gas are not interchangeable and therefore require transmission through separate pipeline networks.

Within each category, but more within the category of high-cal gas, differences in quality exist. As an example, piped gas from Russia or Norway and LNG gas from Algeria or Qatar differ considerably. However, from a security of supply point of view, it is important to diversify the gas sources that supply the NNW region – including domestic production and importations (including LNG).

An effective and competitive market depends highly on the easiness for the gas to flow from one transmission system to another, i.e. the interoperability between systems. But across the region, as well as across Europe, different networks have different gas quality specifications. Shippers have to bear this in mind. For trade to take place between areas of different gas quality specification, treatment of any gas physically moved between networks may be necessary.

The two main objective reasons why quality specifications are needed are: on one hand for safety reasons, to ensure that natural gas combustion at the burner tips of the gas appliances does not produce critical levels of hazardous gas, such as CO, for the end users; on the other hand, for transport reasons, to protect the pipelines and measurement equipment from e.g. corrosion or liquid particles and secure transport in time. There are some other reasons but they can be seen as more commercial and therefore potentially subject to renegotiation.

An additional aspect is the demand of the consumers for accurate metering and billing. The change of gas quality within the limits set for the a.m. safety reasons can lead to situations not covered by the regulations for metering and billing in single countries.

Envisioned end-situation to achieve

The aim is to ensure safe transportation and utilisation of gas by all consumers, avoiding that differences have an impact on trade and competition.

Concerning the gas quality specifications on transmission networks, considerable work has already been achieved by EASEE-gas, which approved internally the Common Business Practice (CBP) 2005-001/01 on 3 February 2005. Common understanding by EASEE-gas was reached on how to streamline interoperability at cross border points in Europe. Thereto the CBP describes the recommended gas quality parameters, the parameter ranges and an implementation plan.

An important contribution will be the project being undertaken by DG TREN looking at interoperability issues (including gas quality) at cross-border points. DG TREN has indicated that the project will aim to establish an “inventory” of gas quality and interoperability issues including assessing the costs and benefits of potential solutions.

In the light of safe utilisation of gas at domestic premises, new initiatives have been launched or will be taken to investigate the actual situation. As an example, the last Madrid Forum of 18-19 May 2006 stressed the need to study at a European level common technical issues linked to the implementation of the EASEE-gas CBPs on gas qualities, including the functioning of gas appliances, safety, emissions and efficiency¹. Of course, safety rules are a major concern for every Member State and differences can never be excluded. However, decisions in one Member State – for example to change or not change gas quality specifications – should not cause barriers to the establishment of the internal market for gas. Concretely, solutions should be applied to make the legitimate policy of one Member State compatible with the implementation of CBP 2005-001/01 on the cross-border points. If the gas specifications on distribution networks are different from the gas specification on the cross-border point, some conversion facilities may be necessary at some point between. In the first place, transmission system operators should coordinate to align the gas specification differences as much as possible to avoid unnecessary costs in transmission, LNG and storage systems, whilst ensuring safety.

Scope of work

¹ Mandate from the European Commission to CEN, related to the Directive 2003/55/EC of the European Parliament and of the Council on the creation of a competitive single European gas market.

As already mentioned, initiatives concerning quality/interoperability have been taken by EASEE-gas, the European Commission and even ERGEG. Within the North – North West Gas Regional Initiative, this work should not be duplicated. Input from the relevant bodies will be requested in order to understand the existing situation and the obstacles to the ideal situation within this region. Efficient costs for enhancing exchange possibilities, properly incurred, should be allowed by regulatory bodies.

This work stream does not address at this stage:

- The TPA rules to gas conversion facilities
- How to secure any necessary investment – if any - in the provision of treatment facilities/services on an efficient and timely basis
- Common European gas specifications for domestic appliances²

It is essential to avoid any artificial restrictions on flows of gas. This means looking at/understanding how gas flows/changes in gas flows are impacted upon by gas quality differences and also developing an appropriate framework for the provision of blending/conversion facilities/services where they are needed.

Outline work plan

Most work will need to be undertaken by TSOs. The table below identifies the issues that need to be looked at and allocates responsibility for taking the work forward.

Note that the TSOs should agree with the RCC the structure of their report – for example should one report be produced that covers the whole work plan or smaller separate reports. It would be intended that the report would be presented at the Madrid Forum in December 2006.

² With its letter from 14th of June 2006, the European Commission DG TREN demonstrated its intention to mandate CEN to draw up standards for gas quality parameters, that are broadest possible within reasonable costs. CEN is invited to base the standardisation particularly on the achievements of EASEE-gas' CBP recommendations. The European Standards shall be adopted within four years of the acceptance of the mandate currently with the Technical Representatives of the Member States for comments

Issue	Description of work	Responsibility	Timing
1) Establish position at each interconnection point	For each interconnection point, as defined within GIE map, establish specifications for relevant parameters at both sides (utilise DG TREN information already collected) taking also into account new developments in the near future.	TSOs/ Operators GIE	Depending on the availability of the data from the DG TREN study.
2) Identification of problems: a) through comparison of the outcome of point 1) with EASEE-gas recommendations b) through building an understanding of the various parameters relating to gas flows within the North – North West RI	<p>Where operators do not apply the EASEE-gas recommendation for 2006 or register today differences to the EASEE-gas recommendations for 2010, document the reasons why for each parameter.</p> <p>The data that is required would be focusing on various parameters in relation to the gas flows on the main routes between the interconnection points as defined in point 1).</p> <p>The particular information that is needed in relation to these flows is as follows:</p> <ul style="list-style-type: none"> ◆ Gas flow information <ul style="list-style-type: none"> ○ for each of the flows specified above, possible minimum and maximum volumes of gas; ○ for each of the flows specified above, the minimum and maximum value of the gas actually flowed and the minimum and maximum values contractually accepted; ○ for each of the planned flows specified above due to new investments, the minimum and maximum values contractually accepted to flow in the future. ◆ Gas quality information on each existing quality parameter: <ul style="list-style-type: none"> ○ for each of the flows specified above, the quality specifications to be applied. <p>On the basis of the information provided, disturbance on gas flows due to quality incompatibilities should be identified. The scenario's together with an estimation of appearance should be the result.</p> <p>TSOs should produce a standard template for collecting this information which should be agreed with the RCC before it is issued.</p>	TSOs / Operators TSOs / Operators Regulators / /	Issue 1) + 2 month
2) Regulatory approach to processing	From issues 1 and 2, a report documenting the outputs may be produced. The interconnection points that potentially require processing, in order to offer the appropriated gas quality, will have been identified. The relevant regulators should give there comments.	TSOs / Operators / Regulators	Next Madrid Forum and/or SG

3) Action Plan	Stakeholders should be consulted and an action plan developed to look at processing options at or near the relevant interconnection points and to consider other options to mitigate the situation (e.g. blending), recognising their limitations (i.e. interruptible service) The action plan should for example consider actual flow specifications in order to indicate the likelihood of interruption to the market as well as the need for processing.		2007
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