



PROPOSAL FOR THE UPGRADE OF THE BALANCING
SYSTEM OF GRTGAZ 'S TRANSMISSION NETWORK

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This document presents GRTgaz guidelines proposal for the evolution of the balancing system of its transmission network by 2012-2013.

1. Background of Concertation Gaz

The Concertation Gaz steering committee has charged the Balancing Working Group to define, in the course of 2010, the target balancing system by 2012-2013 which must incorporate European guidelines set forth by ERGEG.

Three meetings of the Balancing Working Group during the first half of 2010 specifically addressed the definition of fundamental principles of a market-based target system. This work was fuelled by the contributions of shippers in the French market - Alpiq, Altergaz, Direct Energie, EDF, EON, Gas Natural, Gazprom Marketing and Trading, GDF Suez, POWEO, Rhodia, Statoil, Total - and by EFET which is represented within the Working Group by EON. The Group's work will continue in the second half of 2010 to define the terms for the complete implementation of the target system.

GRTgaz has drawn on this work to propose guidelines for the evolution of its balancing system which will be presented in this document.

The Group's work documents and the different contributions are available on www.concertationgaz.com.

2. European Guidelines

EC Regulation 715/2009 sets forth that balancing rules shall be designed in a fair, non-discriminatory and transparent manner, and shall reflect genuine system needs taking into account the resources available to the transmission system operator. These balancing rules shall be market-based.

3. The current balancing system

The balancing rules on GRTgaz's transmission network have evolved progressively towards a market-based mechanism.

From September 2007 to November 2009, sale and purchase prices on the GRTgaz Balancing Platform (P1 market prices) were used to bill a portion of shippers' imbalances. Since 1 December 2009, P1 market prices are determined with GRTgaz interventions on the Powernext Gas Spot exchange.

The principles of this system are as follows:

- Every Shipper is obliged to balance the gas they take off and deliver, on a daily basis, on every Balancing Zone and, in the North Zone, for each gas quality. Each shipper's daily imbalance is calculated at the end of each gas day.
- A daily tolerance is granted to shippers delivering end customers:
 - a standard tolerance, included in the transmission tariff, which depends on the total delivery capacity subscribed by the shipper in the balancing zone in question;
 - since 1st July 2007, an optional tolerance subscribed by the shipper, on top of the standard tolerance which may be $\pm 3\%$ of the total delivery capacity subscribed by the shipper in the Balancing Zone in question.

The current rules for handling imbalances are as follows:

- The portion of daily imbalance below the cumulative imbalance mid-range is aggregated in a cumulative imbalances account (EBC), with the possibility of cumulating up to five times the cumulative imbalance mid-range.
- The portion of the daily imbalance that lies between the cumulative imbalance mid-range and the daily tolerance is purchased / sold between GRTgaz and the shipper at the P1 market price.

- The portion of the daily imbalance exceeding daily tolerance is purchased or sold at a P2 penalty price. If GRTgaz is selling gas to the shipper, P2 is 130% of P1. If however GRTgaz is instead purchasing gas from the shipper, P2 is 70% of P1.
- Quantities exceeding the maximum cumulative imbalance are subject to a P3 price (not constituting a discharge from obligations) which is 30% of P1.

4. Diagnosis of the current system

The successive changes operated on the balancing system of the GRTgaz transmission network enabled a first major step to be taken and all of the stakeholders to be prepared for a market-based balancing system.

GRTgaz however considers that its balancing system has certain limits:

- The system does not sufficiently encourage shippers to have balanced positions. Shippers therefore do not use all of the flexibility resources available to them.
- Since the tolerance offered depends on delivery capacities and therefore remains almost identical all year round, it is not proportionate to shippers' imbalances, which are closely connected to consumption levels. These imbalances are also linked to forecast difficulties depending on the type of consumers (in particular, profiled consumers of distribution networks).
- The management of physical imbalances in real time is complex for GRTgaz because shippers have a cumulative imbalance account allowing gas to be carried over from one day to the next.
- Information provided by GRTgaz to the market concerning the balance status of the network or of shipper in the course of the day is limited.
- A market-based system, but only partly representative of the balancing cost since only a portion of the imbalances are subject to market prices, the remainder falling under the flexibility contract between GRTgaz and Storengy.

5. Guidelines for defining the target system

Most participants in the Balancing Working Group are in favour of moving the current system towards a market-based system in compliance with ERGEG guidelines.

GRTgaz is of the same opinion and envisages setting up a more market-based system within three years.

The target balancing system proposed by GRTgaz for 2012-2013 is based on four major changes:

- an improvement in the information provided by GRTgaz to shippers, both in terms of quality and quantity, on the situation of the network on a whole;
- an improvement in the information provided by GRTgaz to shippers, both in terms of quality and quantity enabling shippers to better estimate their own imbalances;
- a stronger incentive for shippers to balance their gas on a daily basis. As a result, cumulative imbalances account should be eliminated;
- interventions by GRTgaz on the market in relation to the physical tension of the network forecast or observed in real time with a view to reduce this tension to a maximum.

This target system will therefore leave GRTgaz with the single task of physical balancing in real time and residual balancing on a daily basis. Shippers will have more incentive to ensure that they balance their transactions, using information communicated by the transmission operator.

Therefore, the information transmitted by GRTgaz the day before for the following day as well as throughout the course of the day will enable shippers to adapt their renominations to their own imbalance forecasts taking into account the overall imbalance of the system.

GRTgaz interventions on the exchange will enable price signals to be given and all or part of the forecast imbalance to be bridged.

To do so, it appears necessary to change the conditions governing GRTgaz intervention on the exchange as well as to increase the frequency of interventions.

6. Changes envisaged

To attain the desired result, GRTgaz will produce information for the market which will enable shippers to better know both their own balance status and that of the network on a whole.

6.1 A new indicator: network tension indicator in the intraday market

To this end, GRTgaz is expected to produce a new network tension indicator for the overall network and for each balancing zone. By 2011, this indicator will give a qualitative vision of network tension in the form of 5 levels: very tense (long or short), long or short, balanced. This indicator will be published several times per day and will measure the difference between the physical projection of use of network points and the schedule at the time of publication.

By 2012-2013, this indicator will become quantitative.

6.2 Information on end customers

During the day, GRTgaz provides information to shippers with portfolios of industrial clients connected to the transmission network on hourly consumptions of these clients. An improvement in the quality of this information will be organised and implemented when the target balancing system is set up.

GRTgaz will study other types of information during the day concerning distribution network customers (profiled and telemetered customers), in collaboration with operators of distribution networks. Costs related to the different estimation methods and operational solutions will then be discussed during meetings. This information will give rise to a cost/benefit analysis, which will ensure that the information is relevant for the improvement of the system. Given the major consequences which these changes may have on the information system, implementation will not take place before 2013.

6.3 GRTgaz interventions on the market

Once the network tension indicator is in place, it will be the new reference for the assessment of GRTgaz balancing needs.

In the transition period towards the target balancing system, the changes in GRTgaz purchasing and sales interventions will depend on the achievement of sufficient market liquidity. A quality indicator for GRTgaz interventions on the market may be introduced during the transition period.

6.4 Elimination of cumulative imbalance accounts (EBC)

The elimination of cumulative imbalance accounts will be performed gradually, in connection with the level and quality of information provided by GRTgaz to the market and the representativeness of the market price, set by the exchange, used to settle imbalances.

Cumulative imbalance accounts are made up of two parameters:

- the mid-range which is expressed as a percentage of tolerance, generally set at two different values during the year, in the winter and summer gas seasons;
- the number of days that may be accumulated.

The path towards the target balancing system will be based on a gradual decrease of the mid-range until it is eliminated. The different stages of change towards achieving the target system will be established in consistence with the information that GRTgaz will publish in the coming months and years and with an analysis of the effects of these changes on shippers' balancing actions.

By 2012-2013, when the target balancing system is set to be implemented, the cumulative imbalance accounts (and the cumulative imbalance mid-range) shall have disappeared. The path towards the target system shall be defined with the shippers within the Concertation Gaz.

The elimination of cumulative imbalance accounts will lead to the elimination of allocation difference accounts which measured the difference in levels between provisional and definitive allocations at the end of the month.

6.5 Tolerance and rule proposals for the settlement of imbalances

The current system offers tolerances calculated according to the shippers' capacity portfolio. In particular, it enables the specific needs of modest portfolios and new shippers to be taken into account.

Tolerance may be redefined according to:

- the client portfolio and type of associated customers
- the size of the portfolio
- the day's forecast consumption (on the basis of temperature forecasts)

The system for settling imbalances is based on the following main principles:

- The cumulative imbalance mid-range is eliminated.
- Tolerances define the boundary between imbalances cashed out at P1 market price and penalty prices. To continue to encourage shippers to balance their portfolios, the price at which imbalances exceeding the tolerance level are cashed out must be penalised regardless of the direction of the imbalance.
- Two possibilities may be envisaged to encourage shippers to contribute to balancing the system on a whole.
 - The settlement price derives from market prices, which are adjusted for an incentive depending on the global situation of the network and the reaction expected of shippers to facilitate steering by the operator.
 - The settlement price is determined based on a marginal transaction cost for the operator on the exchange. It is the price that completely reflects the tension of the network and in itself encourages balancing.

The second system requires a certain maturity of the market and the global balancing system. It may represent a target. While waiting for such a maturity level, the best way to give incentives is to adjust prices according to the behaviour expected of shippers.

Imbalances are thus cashed out differently depending on:

- tolerance compliance;
- the direction of shippers' imbalance in relation to the imbalance of the overall system at the end of the day.

The rules for the operator's intervention on the exchange will have to be reviewed so that the prices obtained reflect an accurate level of incentive.

6.6 Tools available to GRTgaz for residual balancing

The following tools will be available to GRTgaz for the physical balancing of its network :

- Purchase/sale interventions on the market with new intervention rules granting it more breathing space. The changes to be implemented could be as follows:
 - GRTgaz interventions in direct relation with the level of imbalance forecast and intervention focused more generally on within-day transactions.
 - More limited interventions essentially aimed at enabling the emergence of a balancing price with sufficient incentive to balance the system.
- The storage flexibility contract
- Available line pack (gas in pipelines) to cover the market's intra-day needs (the network can't be balanced on a daily basis with the linepack)
- If necessary, balancing products at the local level for needs identified geographically under particular tension conditions.

The use of these different tools may develop in the coming years, in particular with regard to the level of maturity of the market.

6.7 Tools available to shippers to balance their transactions

For shippers, the expected benefits of the implementation of this future balancing system are as follows:

- Better visibility during the day of their imbalances
- The publication, at several times of the day, of the overall imbalance of the system
- A system encouraging
 - minimal daily imbalance

- the monitoring of the direction of their imbalance in relation to that of the network on a whole.
- an increase in the liquidity of gas exchange points (PEGs) based on:
 - enhanced shippers' interventions, PEGs being their main exchange tool
 - enhanced GRTgaz interventions
- Better representativeness of prices, in connection with the balancing constraints of the system.