



Immeuble BORA  
6 rue Raoul Nordling  
92277 Bois-Colombes Cedex  
  
www.grtgaz.com

## **Proposal for an exceptional change in the shipper balancing rules on GRTgaz's transmission system from December 2013 to April 2014**

### **Background**

The upcoming winter period 2013-2014 is set to be exceptional, according to the analysis by DGEC<sup>1</sup> and GRTgaz, circulated in 2013 to all the market players: historically low subscriptions on the underground storage facilities threaten capacity to balance the gas system in the event of a period of peak cold over the winter.

Withdrawal capacity from underground storage facilities will be unusually low, and the flexibility capacity available to the transmission operator to balance the system will be unusually limited.

**If the available flexibility is limited and if capacity in the gas system's balance is negative,** GRTgaz will have no option but to withdraw gas from the **security stocks** to balance the system. Since this security stocks are relatively small, and difficult to replenish (injection into salt caverns) and needs to be maintained for emergencies in order to keep the gas system operating safely, GRTgaz wishes to adjust the balancing rules in order to limit the risks of a failure of the gas system in winter 2013-2014.

### **Proposed exceptional rule**

It should be reminded that shippers are required under their transmission contract to balance volumes for a given day D; given the existing consumption uncertainties, the system operator nevertheless offers a daily tolerance and uses flexibility tools to maintain the physical balance of the gas system at all times.

The authorised maximum daily imbalance for a shipper is, in the base case scenario, symmetrical between "upwards" tolerance (the shipper has an overall surplus of gas: positive daily imbalance) and "downwards" tolerance (the shipper has an overall shortage of gas: negative daily imbalance).

Given the circumstances of winter 2013-2014, over this period the daily balancing tolerances will exceptionally be made asymmetrical in the event that stress on available withdrawal flexibility should force GRTgaz to withdraw gas from the security stocks.

The exceptional rule will be triggered in the event that GRTgaz should draw on the security stocks in order to balance the system, beyond a given Usage Limit.

The Usage Limit would be 135 GWh until 4 March 2014 and 245 GWh from 5 March 2014.

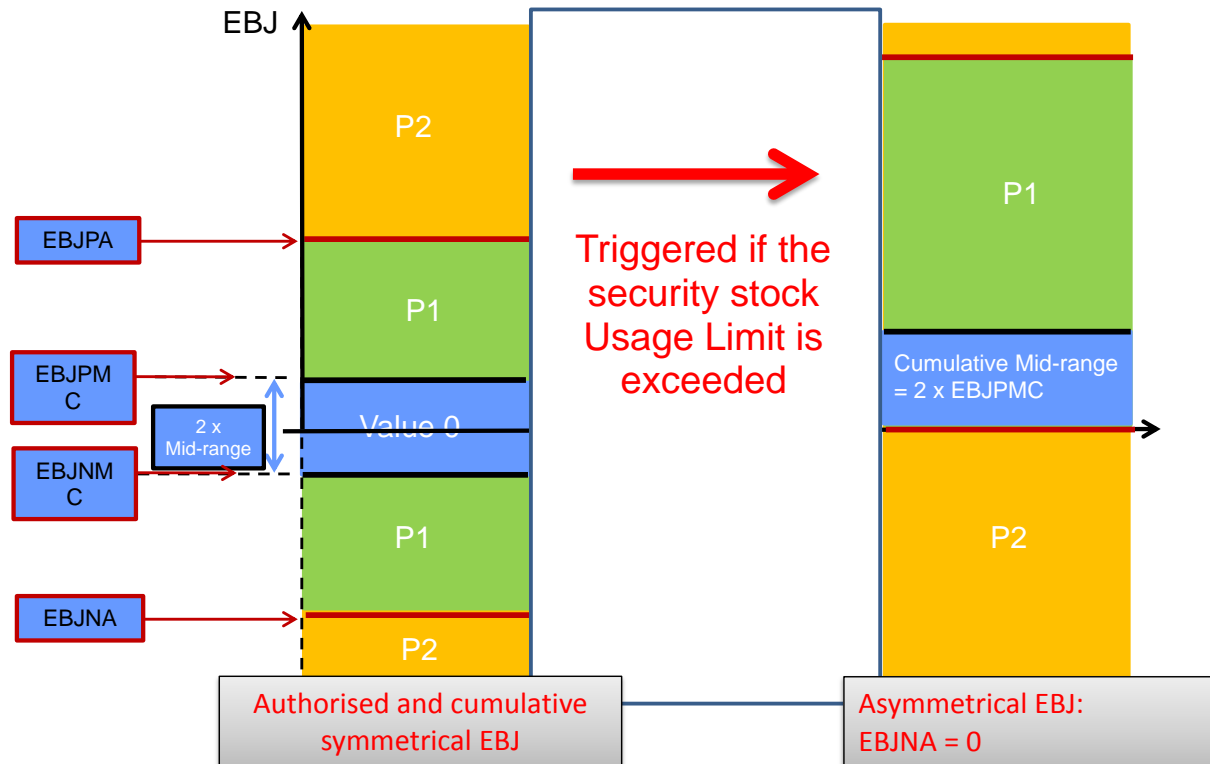
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<sup>1</sup> General Directorate for Energy and Climate, French Ministry of Ecology, Sustainable Development and Energy

In the rest of this document, the term “Cumulative Security Stock Volume Already Used for Balancing” refers to the cumulative volumes withdrawn from the security stocks by GRTgaz to maintain balance, minus any gas injected into the reserve by GRTgaz.

This limited use of the security stocks for balancing would make it possible to balance the system for a few difficult days without threatening the primary role of the security stocks (to meet GRTgaz’s Public Service Obligations).

Should the Usage Limit be exceeded, three days notice would be given (warning issued on day D for D+3) before the maximum authorised imbalance would be made asymmetrical as follows:



In parallel, the Authorised Negative Cumulative Imbalance (EBCNA) would be reduced to 0 instead of 5 times the Maximum Negative Daily Cumulative Imbalance (EBJNMC).

In the event of a residual Cumulative Imbalance (EBC) when the exceptional rule comes into force, there will be a price supplement (P3) on these quantities if the shipper in question has failed to act quickly (i.e. by the value of EBJPMC each day) to increase its EBC during the notice period.

The ceiling on the Authorised Positive Cumulative Imbalance (EBCPA) will be removed throughout the whole period.

### **Trigger criterion**

Shippers will receive notice of the application of the exceptional rule once the Usage Limit is reached.

The past record since 1 November 2011 gives the following indications:

- Maximum daily withdrawal from the security stocks in winter 2011-2012: 29 GWh/d
- Maximum quantities of security stocks used in a single sequence (successive days of withdrawal without reinjection) in winter 2011-2012: 181 GWh (during the cold snap of February 2012)
- Number of days of withdrawal from the security stocks in winter 2011-2012: 11 (cold snap of February 2012)
- Maximum daily withdrawal during winter 2012-2013: 64 GWh/d (in March)
- Maximum cumulative quantities of security stocks used in a single sequence in winter 2012-2013: 131 GWh (end February to mid-March)
- Number of days of withdrawal from security stocks in winter 2012-2013: 7 (between end February and mid-April 2013)

### **Criteria for resumption of normal service**

GRTgaz would try to inject gas into the security stocks throughout the whole period in which the exceptional rule is in force, provided that the system's balance is not negative (deficit).

In order to avoid reapplying the exceptional rule immediately after lifting it, GRTgaz would restore the "Cumulative Security Stocks Volume Already Used for Balancing" to at least 50 GWh above the Usage Limit, i.e. to 85 GWh (up to 4 March 2014) or to 195 GWh from 5 March 2014.

Given that GRTgaz might have to withdraw gas from the security stocks during the notice period, the total quantity to be re-injected would only be known on the day the exceptional rule is actually implemented. From that point onwards, GRTgaz would be in a position to give a likely date for a return to normal service.

Given that the injection capacity of the security stocks is around 9 GWh/d (depending on the level of reserve stocks), the exceptional rule would remain in force for a minimum of 6 days. In certain favourable conditions for injection, and when there are surpluses in the gas system, this period would be shorter.

Once normal service resumes, since EBCPA may have been exceeded, shippers who have exceeded their EBCPA would have a period of time twice as long as the period of implementation of the exceptional rule in order to absorb such overrun.

**Consequences of this measure for shippers**

Shippers would be quickly penalised for a negative imbalance, but would conversely enjoy increased tolerance for a positive imbalance.

The quantity that can be aggregated to the cumulative imbalance account would also become asymmetrical.

Exceptional rule	
<b>Shipper with “upwards” imbalance, i.e. positive imbalance</b>	<p>The maximum daily cumulative amount in the EBC (EBJPMC = Maximum Positive Daily Cumulative Imbalance) is twice the usual value for the current month.</p> <p>The part of the imbalance falling between twice the usual EBJPMC for the month and twice the usual EBJPA (Authorised Positive Daily Imbalance) for the month is purchased by GRTgaz at price P1.</p> <p>Beyond twice the usual EBJPA for the month, the balance is purchased by GRTgaz at cash-out price P2.</p>
<b>Shipper with “downwards” imbalance, i.e. negative imbalance</b>	<p>The whole of the imbalance is charged at price P2.</p>
<b>Shipper whose EBCPA is exceeded</b>	<p>The ceiling on the EBCPA is removed to prevent any overrun being penalised</p>
<b>Shipper whose EBCNA is exceeded</b>	<p>The EBCNA is reset to zero. The imbalance is subject to a price supplement P3 (a penalty that does not release the shipper from its obligations).</p>

### **Additional measures: Adaptations of GRTgaz's balancing interventions**

In the event of stress on the transmission system resulting both from expected high shipper imbalance and from a low level of flexibility:

- GRTgaz could make a day-ahead intervention during the 5:15-5:30pm window, which has been optional since 1 August 2012.

In addition:

- GRTgaz would alter its intervention parameters:
  - doubling of maximum intervention volumes in the North zone (from 10 to 20 GWh) and in the South zone (from 7 to 14 GWh),
  - doubling of the proportionality between the intervention volume and expected end-of-day imbalance,
  - loosening of constraints on the bid-ask spread.<sup>2</sup>

Together, these measures would enable GRTgaz firstly to obtain greater volumes on the Gas Exchange to tackle the imbalances, and secondly to get a higher imbalance cash-out price incentive.

Throughout the whole period that the exceptional rule is in force, GRTgaz would not sell gas for balancing, even if the imbalance indicators in the north or south are long. On the contrary, during its intervention window GRTgaz would buy at least 9 GWh (4.5 GWh in each zone) for injection into the security stocks.

In any case, the implementation of these measures would be preceded by a message from GRTgaz to its customers and CRE.

### **Information provided and communication plans**

In order to ensure that the application of this exceptional rule and the resumption of normal service take place in a transparent and non-discriminatory manner, GRTgaz would e-mail its customers and CRE with the following information, each time there is a change:

- Cumulative volume of security stocks already used for balancing, minus volumes re-injected,
- Usage Limit associated with this volume.

Once a week, GRTgaz could send out a summary of these data.

In addition, GRTgaz would e-mail its customers and CRE information on the following matters:

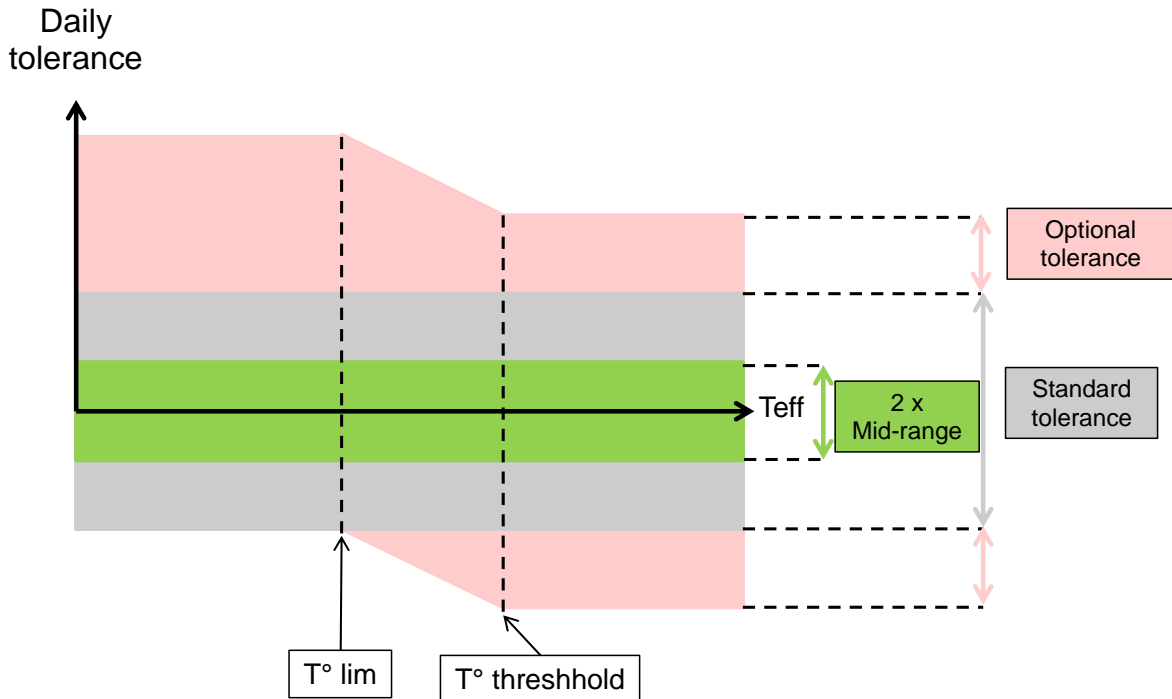
- use of security stocks during the current gas day;
- adjustments of balancing interventions and date;
- application of the exceptional rule, with date of implementation;
- return to normal service with date of implementation.

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<sup>2</sup> GRTgaz has initiated changes to the Powernext algorithm in order to replace the current price constraint based on the previous day's EOD price by constraints based on the bid/ask spread and on a price reference determined from the transaction prices recorded in the current day.

APPENDIX 1: reminder of the existing rule on optional tolerances

There is a mechanism for adjusting balancing tolerances which, in cold periods, can be used to raise shipper tolerances by playing with their optional tolerances. A cold day is defined as a day on which the effective temperature calculated by GRTgaz is below the threshold temperature. The effective temperatures, thresholds and limits are available to shippers on GRTgaz’s customer portal. When the effective temperature falls below the threshold temperature, the share of “downward tolerance” (Authorised Negative Daily Imbalance) associated with shippers’ Optional Tolerance is reduced in a linear way between the threshold temperature and the limit temperature, until it is completely cancelled below the limit temperature. This proportion is shifted upwards. The mechanism is illustrated in the diagram below:



Because of its design, this mechanism does not affect shippers that have not signed up for Optional Balancing Tolerance and has little effect on small shippers, for which the proportion of daily tolerance associated with optional tolerance is low.

## APPENDIX 2: Glossary

EBJ : Authorized Daily Imbalance; quantity of energy, expressed in MWh (GCV 25°C), as defined in the Clause entitled “Daily Imbalances” in Section D2 of the transmission contract.

EBJNA: Authorised Negative Daily Imbalance as defined in clause “Authorised Daily Imbalance” in section D2 of the transmission contract. Negative imbalance threshold above which the missing quantities are sold by GRTgaz at selling price P2 (1.3 x P1).

EBJPA: Authorised Positive Daily Imbalance as defined in clause “Authorised Daily Imbalance” in section D2 of the transmission contract. Positive imbalance threshold above which the surplus quantities are brought by GRTgaz at purchase price P2 (0.7 x P1).

“Mid-Range”: coefficient which, applied to the balancing tolerance, is used to determine the Maximum Negative Daily Cumulative Imbalance (EBJNMC) and the Maximum Positive Daily Cumulative Imbalance (EBJPMC) – See below

EBJNMC: Maximum Negative Daily Cumulative Imbalance = -(Standard tolerance + Optional tolerance) x Mid-range if this value is higher than EBJNA,  
EBJNMC = EBJNA otherwise.

EBJPMC: Maximum Positive Daily Cumulative Imbalance = EBJNMC + 2 x Mid-range x (Standard tolerance + Optional tolerance)

EBCPA: Authorised Positive Cumulative Imbalance – 5 times usual EBJPMC.

EBCNA: Authorised Negative Cumulative Imbalance – usually five times EBJNMC, it will be reduced to 0 on implementation of the exceptional rule.