

DELIBERATION NO. 2018-171

Deliberation of the Energy Regulatory Commission of 24 July 2018 relating to the operation of the single gas market area in France

Present: Jean-François CARENCO, Chairman, Christine CHAUVET, Catherine EDWIGE, Hélène GASSIN, Jean-Laurent LASTELLE and Jean-Pierre SOTURA, Commissioners.

Pursuant to points 1 and 4 of Article L.134-2 of the French Energy Code, the Energy Regulatory Commission (CRE) "specifies [...] the rules concerning [...] the missions of natural gas [...] transmission system operators in terms of operating and developing transmission networks" and "the conditions for the use of these natural gas [...] transmission networks [...], including the methodology to establish tariffs for the use of these networks [...] and tariff changes "

Pursuant to point 4 of Article L.134-3 of the French Energy Code, the CRE approves, "the technical and financial rules established by the operators and relating to balancing natural gas networks [...]".

The present deliberation concerns the operational conditions to administer the single gas market area in France, on 1st November 2018. It supplements the deliberation of 26 October 2017 on the creation of a single gas market area in France on 1st November 2018¹.

To relieve existing congestion between the North and South zones of the GRTgaz network and create a single market area common to GRTgaz and Teréga, the CRE adopted an investment configuration in its deliberation of 7 May 2014. This combines reinforcing the main Val-de-Saône pipeline and the Gascogne-Midi Project. These new infrastructures, developed by GRTGaz and Teréga, have been designed to enable the creation of a single area at an optimised cost. Consequently, residual congestion could exceptionally occur in the network in certain configurations of use. The deliberation of 26 October 2017 defined the terms and conditions to operate the single market area and, in particular, daily congestion removal mechanisms. The present deliberation species these terms and conditions. It is based on a joint proposal by the TSOs submitted to the CRE following work undertaken in the Concertation Gaz process.

The CRE undertook a public consultation from 31 May to 29 June 2018², to present its preliminary analysis on the proposal by the TSOs and gather the opinions of market players.

The CRE received twenty-six contributions:

- 17 came from shippers or shipping associations;
- 3 came from industrialists or industrial associations;
- 6 came from infrastructure managers.

CRE published the non-confidential responses on its website.

¹ Deliberation of the Energy Regulatory Commission of 26 October 2017 on the creation of a single gas market area in France on 1st November 2018.

² Public consultation No.2018-009 of 31 May 2018 relating to the operation of the single gas market area in France

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1. DATE OF INTRODUCTION OF THE SINGLE MARKET

At this stage, work on the various infrastructure facilities is virtually complete. The TSOs are keeping the market informed about the progress of work on a regularly basis through their websites (quarterly at the very least).

For Teréga:

https://www2.terega.fr/nos-projets/projets-transport/projets-en-cours/renforcement-gascogne-midi-rgm.html

For GRTgaz:

http://www.grtgaz.com/grands-projets/le-programme-val-de-saone/presentation.html

The next update is expected in late July to mid-August. With regard to progress to date of the work, the TSOs are planning to merge the zones for a combined implementation in accordance with the planned schedule, i.e. 1 November 2018. In accordance with the CRE's request in its deliberation of 26 October 2017, the TSOs have nevertheless worked on back-up plans in the event of delays to commissioning infrastructure facilities or the introduction of information systems (IS).

1.1 Operators' proposal

1.1.1 In the event of a delay to the Val de Saône pipeline

The Val de Saône pipeline will transport an additional 200 to 250 GWh/d of gas from the North to the South of France. The TSOs have identified two situations in the event of a delay in commissioning this pipeline:

- Should an identified delay occur delay before 1 September 2018, the TSOs propose postponing the merger of the zones to the first day of the month after the Val de Saône pipeline becomes operational;
- If an identified delay occurs between the 1 September and the 31 October 2018, the TSOs propose maintaining the date for merging areas of 1 November 2018 and to manage subsequent congestion with removal mechanisms.

1.1.2 In the event of a delay on the Gascogne-Midi pipeline

The Gascogne-Midi pipeline will transport gas in the South of France, particularly from West to East. In the event of a delay, congestion events in South East France could occur.

Should there be a delay to the Gasgogne-Midi pipeline, the TSOs propose not to delay merging the zones. They consider that the market mechanisms in place are adequate to remedy congestion events. Similarly to winter 2017-2018, the TSOs would be able to resolve congestion events in the South East, using market mechanisms if a delay to the Gascogne-Midi pipeline occurs. The TSOs would subsequently tackle congestion bottlenecks using *locational* spread. This is made easier as storage facilities in the South East of France are all subscribed for 2018-2019.

1.1.3 In the event of a IS delay

Should an IS delay occur, GRTgaz and Teréga consider that they will be able to undertake most of the required actions manually (especially tenders for *locational* spread). As such, if the IS project encounters a delay, the TSOs propose maintaining the merger date of 1 November 2018, in 'downgraded' mode until the IS system is operational. The main effect would be a possible reduction in the number of windows for *locational* spread tenders issued during the day, to restrict the number of manual operations required.

1.2 Summary of responses from the public consultation

Most participants supported the solutions proposed by the operators. By contrast, some shippers wanted to avoid rescheduling the merger of zones under any circumstances or were in favour of penalising the TSOs if they deferred the merger date.

One shipper wanted the merger to be postponed in the event of any delay to commissioning the new infrastructure, including the Gascogne-Midi pipeline and backflow to Cruzy, at the junction between the Teréga and GRTgaz networks.

One shipper also wanted a possible postponement until the 1 September, if an IS delay occurs, due to the latter proving to be too much of a burden for the system to operate properly by 1 November 2018.

As regards the scheduled date of 1 September, as the last deadline to announce a delay to the zone merger date, several shippers highlighted that the two-month period elapsing between an announcement and the planned merger date (1 November) should be considered as a minimum. Other shippers pointed out that a postponement with such a short notification period would be detrimental to them.

Several shippers asked to be kept informed more regularly on the progress of work and any eventual delays. They wanted the TSOs to be completely transparent on this matter with regard to the market.

1.3 The CRE's position

Work undertaken by the TSOs is on time and virtually completed. Authorisations to operate the Val de Saône pipeline are scheduled for August but still have to be secured.

Similarly to the TSOs, the CRE considers that if a delay in the Val de Saône pipeline occurs, congestion management costs would be very high. It is therefore reasonable to plan for a deferral if a delay is identified.

A delay in commissioning the other infrastructure facilities (Gascogne-Midi pipeline and backflow at Cruzy), or delayed deployment of IS changes, would require merger implementation to be altered. However, the latter does not appear to be an obstacle for the merger on 1 November. In this case, the CRE considers that meeting this deadline must take precedence.

The CRE therefore decides that the TSOs must confirm the 1 November deadline for the merger of zones by 1 September at the latest, by informing the market through their websites, at the *very least*. They may only announce a postponement to the merger of zones if a delay to the Val de Saône pipeline occurs. In this case, the TSOs must announce a new date for the merger of zones as soon as the Val de Saône pipeline is operational. This must be the 1st day of month M+2 after the announcement during month M. This period will enable industry players to prepare for this based on the terms of the merger communicated by the TSOs.

In all cases, the TSOs must continue to update the market about project progress on a regular basis, including IS changes.

Furthermore, the TSOs are encouraged to meet the scheduled deadline of the incentive regulation process, set by the deliberation of 30 October 2014³. This provides for the award of bonuses or penalties to the TSOs, based on the real date that the infrastructure becomes operational.

2. CLARIFICATION ON THE TREATMENT OF CAPACITY RESTRICTIONS

There are two cases for capacity restrictions:

- restrictions for maintenance when the TSOs plan a reduction in available capacities due to work that must be carried out:
- mutualised capacity restrictions when a congestion bottleneck occurs and various mechanisms introduced cannot remedy this congestion. In this case, as a last resort, the TSOs will be unable to ensure gas transmission and must proceed with nomination restrictions.

In its deliberation no. 2017-246 of 26 October 2017, the CRE defined terms and conditions for the treatment of maintenance work having an estimated impact of less that 30 GW/h on available capacities ("small-jobs"). No capacity restrictions for this type of maintenance will be published in the maintenance work schedule. Available capacities due to this maintenance work will be treated by congestion removal mechanisms.

Following work on the Concertation Gaz process and requests by market players, the present deliberation specifies conditions for the use of congestion removal mechanisms to optimise the treatment of maintenance work with an impact exceeding 30 GWh, as well as restriction management conditions, particularly maintenance-related restrictions, using superpoints.

2.1 Using locational spread to optimise capacity restrictions for maintenance

Available capacities during maintenance periods are dependent on the impact of the work, but also partly on consumption. Indeed, the TSOs formulate consumption scenarios when they set restriction levels for maintenance work. As such, the greater (and respectively lower) the consumption in an area upstream (and respectively downstream) of work, the lower capacity unavailabilities.

In terms of maintenance affecting the core network, the impact of weather events on consumption can be significant, especially for inter-season maintenance programmes. Uncertainty can therefore have a significant influence on available capacity levels linked to this type of maintenance.

In the current two-zone system, GRTgaz can interrupt interruptible capacities (and subsequently firm capacity) in the North-South link, to manage the impact of this maintenance work.

However, with a single area, the TSOs will no longer have this lever. Without a substitute tool, consumption levels must be maintained at their lowest upstream and highest downstream for the relevant maintenance period to set restriction levels and ensure the network operates properly. However, this conservative approach could result in

³ Deliberation of the Energy Regulatory Commission of 30 October 2014 deciding on an incentive regulation mechanism for the Val de Saône and Gascogne/Midi projects.

needlessly restricting significant capacities and almost systematically reintroducing these newly available capacities to the market on maintenance days.

Consequently, the TSOs propose using *locational* spread to cover part of the risk involved with these consumption level scenarios when setting maintenance work-related capacity restrictions. *Locational* spread could be triggered when a weather event risk arises that is not covered by the restrictions. GRTgaz requested the level of this risk be set at 10% for year one of the TRF, whereas Teréga proposed 30%. In the public consultation, the CRE supported a risk level of 10%. With this option, 10% of cases with the most significant weather events would be excluded from setting restricted volume capacities for maintenance work, applicable over a 12-month period.

All participants that responded to the public consultation supported the use of *locational* spread to optimise capacity restrictions for maintenance. Half supported a 10% risk, emphasising that this level seemed initially appropriate and that it could be subsequently re-assessed after feedback.

Other participants favoured higher risk levels, of 20% and 30%, as proposed by Teréga, and even up to 50%. Certain respondents wanted the TSOs to have the power to set levels of risk, based on consumption scenarios.

In terms of responses to the public consultation, the CRE considers that the use of *locational* spread, coupled with a 10% risk level, based on consumption scenarios, is appropriate for the first year of the single area. Feedback will be gathered by the Concertation Gaz process after the single marketplace has been operating for one year. Based on this feedback, the level of risk considered by the TSOs when developing the maintenance programme may be reexamined.

2.2 Operating superpoints to manage capacity restrictions

If a mutualised restriction occurs, the TSOs will apply an overall mutual restriction on nominations at entry points upstream of the limit or at exit points downstream of it. This will be on a *pro rata* basis for subscribed capacities. The grouping of points concerned by a restriction is called a "superpoint". This restriction solution for a grouping of points, instead of individually restricting each one, provides shippers with greater flexibility.

Joint management will be required in the event of a combined GRTgaz and Teréga superpoint, i.e. combining points that belong to both TSO networks. The TSOs proposed splitting these superpoints into two sub-superpoints, making one superpoint per TSO, and working on the current system used by both TSOs. Shippers must manually transfer operational capacities between the sub-superpoints. For example, a shipper can inject less gas in PITS Atlantic to increase PITS Lussagnet injections, or vice versa, by transferring capacity between GRTgaz and Teréga sub-superpoints. Furthermore, available capacities using the UIOLI Mechanism (*use-it-or-lose-it*, correspond to subscribed, and not used, capacities) are pooled between both TSOs at a joint superpoint. Finally, in the case of NS4 limit (all possible limit configurations can be found in the appendices) restrictions located downstream, entries at Fos PITTM (LNG terminal transmission interface point) are automatically transferred by GRTgaz to Teréga, which, in this case, manages the entire superpoint.

Some shippers that responded to the public consultation raised the complexity and lack of clarity concerning the solution proposed by the TSOs. Several shippers opposed having to manage the transfer of operational capacity between superpoints. They highlighted that this transfer could be managed by the TSOs when they agree that the capacities they have subscribed to various points comprising the superpoint can be exchanged between TSOs.

The CRE notes that it is impossible for the TSOs to implement this alternative solution in the short-term. It therefore supports the solution proposed, to manage capacity restrictions over several points. It requires the TSOs to demonstrate their ability to explain how this solution functions. To do this, they must provide shippers with explanatory materials and operational training sessions prior to creating the single area.

In addition, the CRE requires the TSOs to work on an alternative solution for shippers to manually transfer capacity between sub-superpoints. This will be discussed in the Concertation Gas process by the end of 2019, at the latest. The TSOs must, in particular, explore the possibility of exchanging data on capacities held by shippers at their various points.

3. CLARIFICATION ON DAILY CONGESTION REMOVAL MECHANISMS

3.1 Interruption of interruptible capacities the day before

3.1.1 Operators' proposal

There are two types of interruptible capacity on the GRTgaz and Teréga networks:

 "long-term" interruptible capacities concerning North points in the GRTgaz network (Dunkerque, Oltingue, Virtualys, Obergailbach entry point), which are consolidated before 3pm the day before, for the following day;

 "short-term" interruptible capacities that concern Teréga's Pirineos point and backflow capacity from the GRTgaz network (Virtualys, Jura entry point, Obergailbach exit point), that can be interrupted at any time the day before and the following day.

The deliberation of the CRE of 26 October 2017 states that in the event of congestion, "if interrupting interruptible capacities ensures continuity of supply, it is triggered ahead of any other mechanisms". It specifies that these capacities are interrupted as soon as the red alert level is given on the day before, for the following day.

Following discussions as part of the Concertation Gaz process, the TSOs offered to adjust this rule by proposing to interrupt "long-term" interruptible capacities on the day before, at 2pm, as soon as the orange alert level is given, i.e. as soon as a risk of congestion is detected, as they cannot be subsequently interrupted during the day. The rules for "short-term" interruptible capacities would remain unchanged.

3.1.2 Summary of responses from the public consultation

All participants that responded to the public consultation supported the proposals to interrupt interruptible capacities the day before. They considered that this interruption must be triggered ahead of all other mechanisms.

In terms of the time to interrupt these capacities, set at 2pm in the TSOs' proposal, opinions were mixed. Some participants supported it but certain shippers thought that an interruption at 2pm was premature. Indeed, this would mean interrupting capacities when shippers would have not yet undertaken their first daily nomination cycles. These shippers proposed putting back the time to 4pm.

In addition, some shippers considered that this proposal alters already acquired interruptible capacity, as the interruption on the orange alert during the day before was not, according to them, provided for in the shipping contract.

3.1.3 The CRE's position

The CRE supports the TSOs' proposal to interrupt "long-term" interruptible capacities on the day before at 2pm, when an orange alert is given, even though the shippers first nominations at 2pm are still unknown. On the day before, the TSOs draw up forecasts from 1pm, which they deem to be sufficiently reliable. They also indicate that in any event, the first nominations are generally low on volume and, as such, inadequate.

Furthermore, if the interruption time is put back to 4pm, as supported by certain participants, these capacities could no longer be interrupted. Indeed, the network access contract provides for "long-term" interruptible capacities to be consolidated on the day before, at 3pm. The CRE considers it appropriate not to consolidate these interruptible capacities that could then aggravate the level and risk of congestion.

3.2 Locational spread

3.2.1 Terms and conditions for locational spread tenders

3.2.1.1 Operators' proposal

In its deliberation of 26 October 2017, the CRE adopted *locational* spread as one of the congestion removal mechanisms. That deliberation also determined certain terms governing its use.

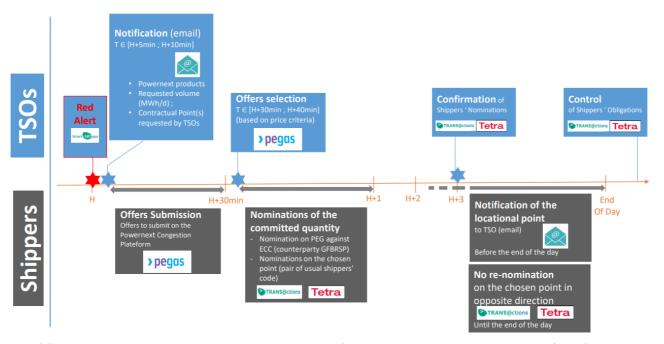
These terms for locational spread were further developed by Concertation Gaz working groups.

On the basis of this work, Teréga and GRTgaz propose the following specifications:

- tenders can be made for all cycles of the gas day in progress. However, where possible, tenders made during working hours will be given priority;
- the TSOs will send their tenders by e-mail. These e-mails will specify:
 - o the limit concerned:
 - the required volume of gas (in MWh/d);
 - o the points upstream and downstream of the limit concerned;
- the products concerned will be "within day" products;
- the shippers will submit their bids to a platform specially designed for this purpose;
- the TSOs will select the best bids, i.e. the most cost-effective;
- the successful shippers must perform the movement for which they have been selected at the point or points concerned. the expected change in nomination must be made in the hour following the selection of calls for tenders;

- shippers must notify TSOs by e-mail of the point or points chosen and the related quantities, before the end
 of the gas day;
- the TSOs will check the schedules and the point or points chosen by the shippers whose bids have been selected. Penalties are applicable if the service is not provided and/or rescheduled to be undertaken in the opposite direction at a later time.

The diagram below summarises the operators' proposal:



The TSOs realised it would be impossible to implement the following target terms and conditions from 1 November 2018:

- the possibility for shippers, that so desire, to submit a bid the day before (*day-ahead*) that would be automatically converted into a "within-day" bid at the start of the gas day;
- the possibility to launch a call for tenders in MWh/h and not in MWh/d, so that the bids may remain valid throughout the entire gas day. As a result, the volume would apply to each hour remaining in the gas day. This option would automatically convert tenders placed as day-ahead bids into within-day bids.

3.2.1.2 Summary of responses from the public consultation

The vast majority of respondents to the public consultation supported the TSOs' proposals on terms and conditions applying to *locational* spread tenders, which echoed discussions during the Concertation Gaz process.

Some players thought that the period for nomination changes expected of a shipper should be extended to account for discussions between the various counterparts (e.g. a supplier with one or more customers), which could underpin a new nomination. In their opinion, a minimum period of one and a half hours would be preferable to guarantee the new nomination.

Other participants asked for the sending of an e-mail by the shipper outlining the points on which they have amended their nomination to be discontinued. According to them, this e-mail adds an operational complexity and is redundant with nominations already made.

As for the possibility of submitting tenders in MWh/h, some participants asked that this be implemented forthwith.

One participant regretted that gas-fired combined cycle power plants (CCCG) did not take part in trialing *locational* spread during winter 2017-2018 as they only belatedly became eligible to take part.

3.2.1.3 The CRE's position

The CRE supports the *locational* spread tender terms and conditions proposed by the TSOs and presented in the Concertation Gaz process. These terms and conditions could be subsequently amended based on feedback and requests from the market.

The period for changing nominations after notification of a call for tenders by the TSOs will remain one hour. Indeed, if a congestion bottleneck occurs that must be reabsorbed, the bidder must be responsive so that the congestion disappears. This re-nomination period will nevertheless continue to be subject to discussions in the Concertation Gaz process and may eventually be adjusted.

In terms of the TSOs finding it impossible to implement some target terms and conditions by 1 November 2018, the CRE requires the latter to work towards implementing the following terms by 1 November 2019.

- the possibility for shippers, that so desire, to submit a bid the day before (*day-ahead*) that would be automatically converted into a "within-day" bid at the start of the gas day;
- the possibility to launch a call for tenders in MWh/h and not in MWh/d, so that the bids may remain valid throughout the entire gas day. As a result, the volume would apply to each hour remaining in the gas day.

Finally, notifying the TSOs by return of e-mail, about the points selected by the successful shippers and related volumes is vital to ensure the mechanism works effectively and to carry out the necessary re-nomination checks. Currently, if these e-mails were not sent, the TSOs would be unaware of the points related to shipper re-nominations. The CRE nevertheless requests work to be undertaken on an alternative solution, in consultation with the shippers.

The TSOs will divide up the management of *locational* spread on a periodic basis of 50%. Each TSO will be responsible for interventions on alternate weeks.

3.2.2 Penalties in the event for non-compliance with terms and conditions

3.2.2.1 Penalty calculation method proposed in the public consultation

If a shipper winning a call for tender for *locational* spread does not comply with its commitments, a penalty may be applied. In its decision of 26 October 2017, CRE adopted the principle of a penalty proportional to the volume concerned at the transaction price, plus 25%.

The rule for calculating this penalty gave rise to discussions within Concertation Gaz process. Some participants that had to pay penalties during winter 2017-2018 stated that the level of penalties was so high compared to the benefits of participating in the calls for tenders for *locational* spread, that some shippers might be dissuaded from participating in those calls.

In addition, the regulation of this penalty does not exempt the shipper from having to settle potential imbalances in their nominations.

To encourage participation in *locational* spread tendering, the CRE intends to amend the method for calculating the penalty, to prevent it from being excessive.

The proposed penalty would be calculated based on the following principles:

- the penalty is calculated independently between the purchase of gas on one side of the congestion bottleneck and the sale of gas on the other side of the bottleneck, including when the same shipper is selected on both sides of the bottleneck;
- the penalty is proportional to the volume concerned;
- if a delay in nominations occurs, the penalty would be calculated by applying a prorata temporis.

The penalty sum would be calculated on the missing volume concerned, multiplied by 25% of the average price of the day, plus the margin made by the shipper on this call for tenders corresponding to the portion of the volume in question. This margin is calculated by considering the difference between the price of the bid selected and the average price of the day. This proposal corresponds to the following formula:

$$P = Q_d \times \frac{D_r}{D_i} \times 25 \% \times P_{moy} + Q_d \times \frac{D_r}{D_i} \times (|P_{tr} - P_{moy}|)$$

With:

- Q_d: the quantity concerned at the network point
- D_r : delay duration, in hours
- D_i : duration of gas day covered by the *locational* spread, in hours
- P_{moy} : average price for the day at the PEG France
- P_{tr} : price of successful bid

Example: A participant is selected downstream of a bottleneck to ship 10,000 MWh, at the price of $\le 24/MWh$. The average price of the day is $\le 20/MW$. This participant nominates an upward amount of only 7,500 MWh at the points downstream of the bottleneck

The penalty applicable is therefore $P = 2,500 \times 25\% \times 20 + 2,500 \times (24 - 20) = €22.5k$

A participant is selected upstream of the bottleneck for 10,000 MWh, at the price of €18/MWh. The average price of the day is €20/MW. This participant makes a degressive nomination amount of 10,000 MWh at the points upstream of the bottleneck with a three-hour delay compared to the time scheduled by the locational spread. Fifteen hours in the day remain covered by the locational spread.

The penalty applicable is therefore $P = 10,000 \times 3/15 \times 25\% \times 20 + 10,000 \times 3/15 \times (20 - 18) = €14k$

CRE also proposed that feedback be given regarding compliance with *locational* spread commitments, as well as penalty levels, and to apply similar penalty terms and conditions for locational products used for balancing purposes.

3.2.2.2 Summary of responses from the public consultation

The participants welcomed the clarifications on the calculation method proposed by the CRE. One shipper wanted this clarification to be supplemented by a revised *locational spread* contract, with an explanation on the difference between *locational* spread, used for bottlenecks, and localised products, used for rebalancing.

Approximately, half the participants supported the CRE's proposal.

Two participants supported the proposal, subject to an extension of the re-nomination period from 1 hour to 1.5 hours in the tender response process.

One shipper asked for some flexibility in the first *locational* spreads, whereas others wanted the penalty to be set at 10% rather than 25%, with no profit margin claw-back.

One shipper wanted the 25% penalty to apply to the transaction price and not to the average price of the day.

Several shippers thought that applying the penalty independently of each 'leg' of *locational* spread, both upstream and downstream of the bottleneck, doubly penalised a shipper selected for both sides of the bottleneck and which is simultaneously in deficit on both sides.

Finally, the TSOs were against applying a *prorata temporis* arrangement. They wanted the penalty to be fully applied from the slightest delay to nominations. They considered that a delay carried a high risk to managing the network and greater cost to address bottlenecks, with the possible launch of a new *locational* spreads to meet needs not covered by the previous spread.

3.2.2.3 The CRE's position

The CRE notes the opposing positions between the shippers seeking greater flexibility and the TSOs raising the risk of an insufficiently incentive-based penalty sanction, especially in the event of delays.

The CRE considers that the penalty must apply to the average price of the day and not to the transaction price. Indeed, if a shipper makes a transaction upstream of the bottleneck, the lower the price is the greater the cost of locational spread. It makes no sense for a degressive penalty, in this case. Applying the penalty at the average price of the day will ensure it matches the market price of gas.

Furthermore, the CRE considers that it makes sense to sanction independently each side of the bottleneck. In this way, the shipper can only be in deficit on one side and just this side in question will be subject to a penalty. If a shipper is selected on both sides of the bottleneck and is in deficit upstream and downstream, it makes sense that it is penalised on both sides.

The CRE realises that a delay in nominations can have adverse consequences on the management of the network. Compared to its initial proposal, to avoid arbitration, the CRE has decided not to apply a *prorata temporis* arrangement on clawing back profit margins.

As a result, the penalty calculation formula P is as follows

$$P = Q_d \times 25 \% \times \frac{D_r}{D_j} \times P_{moy} + Q_d \times (|P_{tr} - P_{moy}|)$$

With:

- Q_d : the quantity concerned at the network point
- D_r : delay duration, in hours
- D_i : duration of gas day covered by the *locational* spread, in hours
- P_{max} : average price for the day at the PEG France

P_{tr}: price of successful bid

Furthermore, if a shipper selected for several volumes at various prices on a given side fails to comply, the price of the successful bid, P_{tr} corresponds to that for which the profit margin is greatest, until it covers all the volume concerned.

The CRE considers that this penalty is balanced insomuch as it provides sufficient incentive to avoid arbitration cases at the expense of reabsorbing the bottleneck, while not dissuading market players from taking part in calls for tenders.

4. MONITORING STORAGE FILLING LEVELS DOWNSTREAM OF BOTTLENECKS AND PREVENTIVE MECHANISMS IN THE EVENT OF GAS DEFICITS

4.1 Monitoring storage levels downstream of bottlenecks

To ensure continuity of supply downstream of North-South congestion bottlenecks, different forms of flexibility can be used, including storage, LNG terminals and imports from Spain. If required, the *locational* spread mechanism will enable the TSOs to use these forms the day before or on the day itself.

However, if there is simultaneous strain on networks in France and in Spain, it might not be possible to reduce exports to Spain. Similarly, an increase in withdrawals at LNG terminals can only be used in the short-term if LNG is available in the tanks. Consequently, the only flexibility TSOs can count on in all situations is storage, within flow limits for filling facilities located downstream of bottlenecks.

This is why the CRE decided, in its deliberation of 26 October 2017, that TSOs could implement daily monitoring systems in winter on storage levels downstream of each bottleneck. This would ensure effective, short-term, availability of *locational* spread bids to guarantee continuity of supply.

The purpose of this monitoring process is to plan for insufficient storage levels to guarantee the necessary flow to address potential short-term congestion. If there are insufficient storage levels, monitoring can trigger preventive measures to counter the risk of a lack of downstream flexibility.

Monitoring is based on:

- a supply scenario that must represent a strained but realistic situation;
- taking into account all known or anticipated aspects (consumption for the upcoming days, LNG terminal withdrawal timetable and other specific events);
- projection for the end of winter, containing different weather scenarios, to detect any critical configuration that would put the functioning of the single zone at risk.

4.1.1 TSO proposal

4.1.1.1 Monitoring tool description

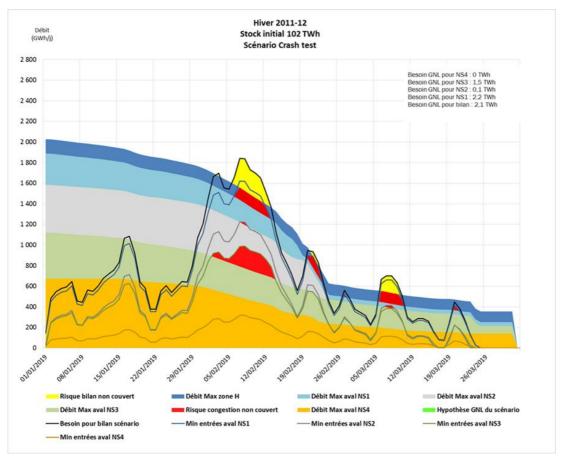
The tool proposed by the TSOs can be used to test different weather scenario combinations (past winters, 2% risk cold winters) and of supplies (little LNG arrival) corresponding to situations when the network is under strain.

The tool estimates the level of storage withdrawal necessary to operate the network for each winter gas day. The estimated quantities withdrawn from storage are therefore strictly limited to network balancing needs. In addition, several storage points may be equally used to address the same constraint. In this case, the tool proposes a distribution corresponding to a relatively consistent use of stored gas throughout winter, while striving to preserve, if possible, peak capacity at 45% of working volume (WV) by 1 February.

Finally, maximum storage withdrawal capacity is calculated using the volume remaining in storage and development factors published by storage operators. The volume withdrawn on a given day is subtracted from the remaining stock to indicate the new maximum storage withdrawal capacity for the following day, and so on and so forth for each day of the scenario tested. As such, the tool takes into account storage dynamics throughout the winter and detects the period from which the remaining storage volume is no longer sufficient to meet the network's flexibility requirements downstream of bottlenecks (also referred to as "limits").

Monitoring results are displayed in the form of curves, representing storage use requirements downstream of each limit, compared to the maximum flow available in storage facilities downstream of each limit. Periods during which the flows available in storage (given storage consumption), are insufficient to meet the network's flexibility needs, appear on the monitoring graph below in red (limit reached: insufficient gas to supply downstream of a bottleneck) or yellow (balancing problem: insufficient gas for all the network). In this last case, it is not a bottleneck, but of an overall imbalance that shippers are still required to resolve, in compliance with balancing rules.

Based on the assumptions adopted, the tool subsequently serves to detect periods which present a risk of insufficient downstream supply before they happen. If the feared scenario is confirmed within a predefined timeframe, a preventive mechanism can be triggered to cover this risk.



The example proposed above features a combination of extreme scenarios to generate risk periods:

- a starting-point of storage facilities at their lowest-ever recorded levels (that of 1 November 2017);
- a past weather scenario with a cold winter and a major cold spell in early February (winter 2011-2012);
- a total lack of LNG in LNG terminals throughout the winter, maximum flows of firm technical capacity to Spain all winter, CCGT consumption at a winter user-rate of 71%.

In reality, such extreme scenario combinations across the board (storage level, weather conditions and supply) are highly unlikely, particularly following the implementation of storage reform in France, which has subscribed virtually all 2018-2019 storage capacities.

4.1.1.2 Model parameters, publications and criteria for triggering a preventive mechanism

The TSOs propose configure monitoring systems by incorporating the best information at their disposal, i.e.

- actual storage levels;
- consumption forecasts for the next 15 days;
- beyond the next 15 days, several restrictive weather scenarios (based on recent winters and on a typical 2% R2 cold winter risks and P2 cold spell risks, for three and ten days) will be tested;
- a stretched supply scenario, but taking into account known events (withdrawal schedules at Fos and Montoir LNG terminals for the month in progress).

The TSOs will publish a storage monitoring report every 15 days, between 1 November and 1 April. If a risk is detected, they shall indicate the different assumptions that result in the emergence of this risk (mainly consumption and supply scenarios).

Preventive mechanisms will be triggered (flow commitment, see section 4.2) if:

the risk detected only concerns a balancing problem and not a limit being reached. In this case, only the
information shall be relayed to the market and the TSOs shall not trigger any mechanism;

• the risk detected concerns a limit being reached (i.e. that shippers have the resources in their portfolio to balance, but the network cannot supply the necessary capacity). In this case, the TSOs will inform the market that a preventive mechanism has been triggered.

4.1.2 Summary of responses from the public consultation

Most participants that responded to the public consultation supported the operators' proposal of a monitoring method to check filling levels at storage facilities downstream of bottlenecks during the winter and also the parameters selected for monitoring. They considered that this method was both relevant and robust. One participant thought that it would also be useful to monitor storage facility levels in summer.

Several shippers thought that the TSOs should prioritise realistic scenarios and that they should avoid upsetting the market and distorting prices by announcing alarming forecasts. These scenarios could be featured in the Concertation Gaz process.

One shipper considered that LNG stocks in tanks should also be included in the TSOs' scenarios, as applies to storage levels in underground facilities. One shipper wanted an export scenario for Spain to be set at an historically-based medium level rather than a maximum one.

One storage operator reiterated that, contrary to the assumption retained by the TSOs, shippers could withdraw more gas from storage than is strictly necessary, to maintain the network in normal working order.

Two shippers indicated that the level of risk covered was too great and that higher levels of risk should be taken, but not resulting in covering all manner of supply breakdown situations.

One shipper highlighted that bottlenecks different to those identified to date can also appear. As such, it would be useful to enable the TSOs to monitor additional bottlenecks when a new risk arises.

As regards the regularity of publishing downstream storage monitoring reports every 15 days during winter, most participants that responded to the public consultation thought that weekly monitoring reports would be more appropriate. The period selected should, according to some, be adaptable to avoid delaying any communication of possible strained situations to the market.

4.1.3 The CRE's position

The CRE supports the TSOs' proposals for a monitoring tool to detect medium-term critical situations that put continuity of supply at risk.

The tool presented by the TSO's helps detect possible gas deficits in storage facilities downstream of North-South bottlenecks during winter which, if they did occur, would result in breakdowns in supply.

The CRE considers that the parameters included in the monitoring system must be defined by the TSOs. Taking into account recent changes, particularly the reform to storage access, the selected scenarios must be presented to market players in the Concertation Gaz process.

The CRE reiterates that the aim of monitoring storage facilities downstream of possible bottlenecks is to ensure that there is enough gas to address bottlenecks if stretched situations occur, especially in the case of a 2% risk peak.

Furthermore, the CRE considers it important to publish monitoring reports at regular intervals, to keep market players informed during the winter. Weekly publication periods appear best suited. This frequency must be increased when strain in the network occurs, meaning that TSOs must publish monitoring reports as soon as an alert arises. If monitoring reveals a deficit of gas in storage facilities downstream of bottlenecks that subsequently trigger a preventive mechanism in the two-week period, the TSOs must publish monitoring reports more regularly.

4.2 Preventive mechanism in the event of a gas deficit in storage facilities downstream of a bottleneck

4.2.1 Non-trading of interruptible capacity

In its deliberation of 26 October 2017, the CRE considered that monitoring storage levels downstream of bottlenecks (or "limits") focused exclusively on continuity of firm supply. As such, market-based mechanisms should not guarantee interruptible supply.

As such, if a medium-term risk to continuity of supply arises, trading interruptible capacities downstream of bottlenecks shall be temporarily interrupted. In practice, when the risk of a gas deficit in storage downstream of bottlenecks is detected by the monitoring tool (described in section 4.1), the TSOs can use a *flow commitment* with a maximum lead-in time of four weeks (see section 4.2.2.2). As a result, interruptible capacities downstream of bottlenecks would not be traded four weeks before the detected risk of deficit.

Indeed, the CRE considers that suspending the sale of interruptible capacities must precede all market-based mechanisms. Nevertheless, given the low risk of this situation occurring and the importance of not unnecessarily restricting the trading of interruptible capacities, the CRE supports adopting an identical timeframe between the maximum lead-in time for launching a flow commitment and suspending the sale of interruptible capacities.

The sale of interruptible capacities can resume the moment the risk detected disappears.

4.2.2 Flow commitment

Flow commitment is a market-based mechanism consisting of a contract with TSOs for a flow of gas downstream of limits, at entry points other than storage.

4.2.2.1 Taking into account exit flow reductions at the Pirineos PIR

· Public consultation proposal

Given that the assumptions considered for configuring *flow commitment* focus on a flow of 165 GWh/d at the Pirineos PIR, less use of the latter would be just as effective to resolve gas deficits in storage facilities downstream of bottlenecks as shipping a cargo of LNG.

The CRE therefore proposed, in the public consultation, that a shipper holding exit capacity at Pirineos PIR and committing to not use it, should be eligible for *flow commitment*. In return, this unused capacity cannot be re-proposed on the market.

• Summary of responses from the public consultation

Several shippers that responded to the public consultation supported the inclusion of exit flow reductions at the Pirineos PIR among the *flow commitment* response options. Conversely, one shipper disagreed, considering that the purpose of the *flow commitment* mechanism was to ensure the presence of gas required to maintain firm exit capacities and that it was strange to address *flow commitment* by reducing these capacities.

• The CRE's position

The CRE considers that including exit reduction flows at Pirineos PIR is compatible with the purpose of the *flow commitment*. Shippers would then have the choice of responding to a call for tenders on *flow commitment* using this mechanism, but would not be constrained to use it. In addition, this exit flow reduction at the Pirineos PIR matches an additional entry flow from the Pirineos PIR, which presents another option to respond to calls for tenders on *flow commitments*. In fact, if additional capacity in Spain is available, it seems logical that a shipper transporting gas in Spain via the Pirineos PIR can cut flows from France and buy capacity directly available in Spain to deliver it there.

4.2.2.2 Triggering timeframe

· Operators' proposal

The triggering timeframe is set based on the date when a gas deficit risk is identified in downstream storage facilities by the monitoring tool described in section 4.1.

GRTgaz and Teréga propose an initial period of 7 days to enable shippers to respond to calls for tenders.

Following studies undertaken by both TSOs, they proposed delivery timeframes and, subsequently, different *flow* commitment triggering periods for missing volumes detected by the monitoring tool (featured in section 4.1 of the present deliberation) in storage facilities downstream of bottlenecks. The period would be additional to the minimum timeframe of one week for the call for tender and be as follows based on the missing volume:

- 3 weeks for a identified need over or equal to 900 GWh;
- 2 weeks for an identified need between 450 and 900 GWh;
- 1 week for an identified need lower than 450 GWh.

Summary of responses from the public consultation

Most participants that responded to the public consultation supported the terms and conditions proposed by the TSOs. One shipper highlighted that the 7-day response timeframe was perhaps the minimum required for this type of call for tenders. He also wanted the delivery timeframe thresholds according to the identified need proposed by the TSOs to be smoothed out.

Opinions were split on delivery timeframes. While half supported the TSOs' proposal, some wanted the shortest possible timeframes to avoid unnecessary use of a *flow commitment* and to provide the required volumes of gas by avoiding, in particular, dead-weight effects. Others, by contrast, wanted longer timeframes, emphasising that a *flow*

commitment would only be triggered in an extreme situation, with an extended absence of LNG in France (which implies a stretched global LNG market).

Two shippers thought that setting delivery timeframes based on need was a matter for discussion. They highlighted that the LNG market cannot guarantee that a small quantity (450 GWh) can be delivered in a shorter timeframe than for larger volumes (900 GWh). Another, by contrast, highlighted the usefulness of configuring delivery timeframes based on size of need. The chance of meeting a moderate need with LNG available in tanks at European terminals is greater, with shorter delivery timeframes, whereas delivering a cargo of LNG would be required for larger needs, with correspondingly longer delivery timeframes.

The CRE's position

The CRE reiterates that studies undertaken by the TSOs show that the LNG market could provide enough flexibility for the smallest quantities. If a period of 20 days is needed for a *spot* purchase of an LNG cargo, shippers could use faster means to honour flow commitments, such as diverting cargos or reloading in gas terminals close to French terminals, or by using LNG already present in tanks at terminals in the Iberian Peninsula. Furthermore, cutting delivery timeframes helps refine identified needs. Although delivery timeframes are debatable, the CRE considers that the proposal by the TSOs is a good compromise between the time required to cover deficit risks and flexibility to avoid oversized *flow commitments* and corresponding costs that would be paid for by the community. The CRE therefore supports this proposal.

4.2.2.3 Call for tender characteristics

· Operators' proposal

The TSOs propose that the call for tender be configured based on the missing volume and flow which will be identified by the results of the monitoring of storage downstream of bottlenecks.

It will specify:

- a delivery start date;
- a total volume to deliver over a determined period; GRTgaz proposes a period of up to 15 days, while Teréga
 proposes a period of up to 7 days; beyond that, if a need is detected, another call for tenders for a flow
 commitment can be triggered;
- a maximum possible daily flow that can be demanded by the TSOs each delivery day, the day before for the following day;
- the entry points eligible for the flow commitment.

The TSO managing the point or points selected for the *flow commitment* will sign a contractual agreement with a *flow commitment* provider. The TSO do not become owner of the gas. The *flow commitment* provider remains the owner of the gas that it sends out on the network.

The TSOs will be able to ask the provider to adjust its daily flow the day before, within the limit of the maximum daily flow specified in the call for tender and at a constant volume over the period.

So that the risk related to this adjustment is borne by the TSOs and not the provider, Tere and GRTgaz propose to financially compensate, a posteriori, the provider for the difference between the market price for the day and the average price for the period. This difference would apply on the difference between the daily flow asked by the TSO with a send-out at a constant level over the period.

• Summary of responses from the public consultation

The opinions of those who responded to the public consultation was mixed concerning the period covered by the *flow commitment*. Part supported the proposal by Teréga to restrict deliveries to a 7-day period, while others favoured the 15 day period proposed by GRTgaz. A third category wanted an extension beyond the 15 days, to one month; the period corresponding to issuing a band for an LNG cargo. Finally, other shippers wanted the TSOs to determine delivery timeframes on a case-by-case basis.

Most participants were in favour of the TSOs covering the difference in cost between the daily flow featuring in the contractual agreement from the *flow commitment* call for tenders and the adjusted daily flows, based on day-before TSO requirements. One shipper disagreed and thought that the *flow commitment* provider should carry the risk. Another shipper wanted some flexibility in determining the price.

• The CRE's position

The CRE supports the terms and conditions of the call for tenders proposed by the TSOs. Following responses to the public consultation, it nevertheless considers it more appropriate to leave the TSOs the freedom to define the delivery timeframe covered by a *flow commitment*. They could therefore adjust it accordingly on a case-by-case basis.

5. SPLITTING OF COSTS BETWEEN THE TSOS

Operators' proposal

The CRE's deliberation of 15 December 2016 forming a decision on the tariff for the use of GRTgaz and Teréga natural gas transmission networks states that "in the case where, based on mechanisms that have been put through a market consultation and been approved by CRE, the TSOs would have to sign contracts with consideration clauses to ensure the decumulation of residual congestion following the creation of the single marketplace, the corresponding expenditure and revenue will be taken into account during the annual tariff adjustment."

As decided in the CRE's deliberation of 26 October 2017 on the creation of a single gas market area in France on 1 November 2018, the updated deliberation on the ATRT6 tariff on 1 April 2018⁴ states that " the costs of congestion management will be incorporated into the transport tariff in the form of an annual trajectory. The deviations from the trajectory will be included in the revenues and expenses clawback account (CRCP). The congestion management costs on "small jobs" days will be treated in the same way."

GRTgaz and Tere ga propose splitting the costs of mechanisms for managing limits or maintenance-related restrictions *in proportion* to their authorised income for the tariff year in progress.

For example, for the year 2018, since Tere ga's authorised income was €246.1 M, and that of GRTgaz €1,781.9 M, GRTgaz would incur 88% of the costs and Tere ga 12%.

• Summary of responses from the public consultation

All those who responded to the public consultation supported the proposal by the TSOs to split the cost of mechanisms to manage congestion and maintenance-related restrictions in proportion to their authorised income.

One shipper wanted the TSOs to be encouraged to reduce congestion on the network.

• The CRE's position

The CRE considers that this formula to split costs between the TSOs helps fairly allocate tariffs between the two operators and does not penalise users of one network compared to another. It therefore supports the operator's proposal.

⁴ Deliberation of the Energy Regulatory Commission No. 2018-022 of 7 February 2018 on the evolution of the tariff for the use of GRTgaz and TIGF natural gas transmission networks on 1 April 2018

CRE'S DECISION

The CRE specifies the operational terms and conditions of a single gas market area in France:

Date of introduction of market

The single marketplace will be operational by 1 November 2018, except in the event of a delay in commissioning the Val de Saône pipeline.

The TSOs will confirm the date of introduction of the single marketplace by 1 September 2018, by communicating with the market by their respective websites at the *very least*. They may only announce a postponement to the merger of zones if a delay to the Val de Saône pipeline occurs. If required, as soon as the Val de Saône pipeline is operational, the TSOs must announce a new date for the merger of zones, corresponding to the 1st day of month M+2 following the announcement during month M.

Clarification on the treatment of capacity restrictions

Using locational spread to optimise capacity restrictions for maintenance

The TSOs will ignore the 10% of the most extreme cases of consumption level assumptions when they establish capacity-related restrictions related to the 2019 maintenance work programme. *Locational* spread will cover congestion events from a weather hazard arising that is not covered by restrictions. This level could be subsequently re-assessed following feedback from the Concertation Gaz process.

Operating superpoints to manage capacity restrictions

Joint management will be required in the event of a combined GRTgaz and Teréga superpoint, i.e. combining points that belong to both TSOs networks. This superpoint will be split into two sub-superpoints, making one superpoint per TSO, and working on the current system used by both TSOs. Shippers must manually transfer operational capacities between the sub-superpoints.

Furthermore, available capacities using the UIOLI Mechanism (*use-it-or-lose-it*, correspond to subscribed, and not used, capacities) are pooled between both TSOs at a joint superpoint.

Finally, in the case of NS4 limit restrictions located downstream, entries at Fos PITTM (LNG terminal transmission interface point) are automatically transferred by GRTgaz to Teréga, which, in this case, manages the entire superpoint.

The TSOs must work in 2019 on an alternative solution for shippers to manually transfer capacity between subsuperpoints. The TSOs must, in particular, explore the possibility of exchanging data on capacities held by shippers at their various points.

Clarification on daily congestion removal mechanisms

Interruption of interruptible capacities the day before

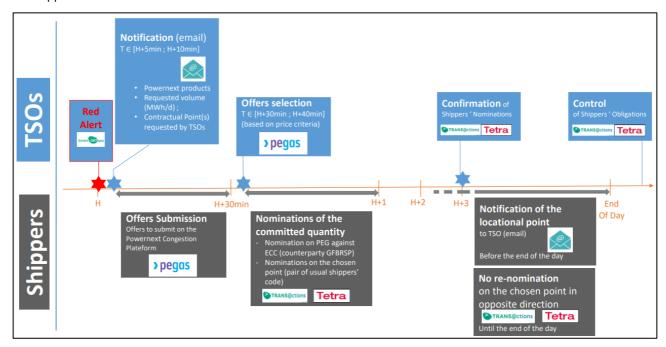
In the event of an orange or red alert, "long-term" interruptible capacities at Northern points of the GRTgaz network (Dunkerque, Oltingue, Virtualys, Obergailbach entry), which are normally consolidated before 3pm the day before, for the following day, will be interrupted on the day before at 2pm.

Terms and conditions for locational spread tenders

The terms and conditions for *locational* spread tenders are as follows:

- tenders can be made for all cycles of the gas day in progress. However, where possible, tenders made during working hours will be given priority;
- the TSOs will send their tenders by e-mail. E-mails will specify:
 - o the limit concerned:
 - o the volume of gas required, expressed in MWh/d;
 - o the upstream and downstream points of the limit concerned;
- the products concerned shall be within-day products:
- the shippers will submit their bids to a platform specially designed for this purpose;
- the TSOs will select the best bids, i.e. the most cost-effective;

- the successful shippers must perform the movement for which they have been selected at the point or points concerned, the expected change in nomination must be made in the hour following the selection of calls for tenders;
- shippers must notify TSOs of the point or points chosen and the related quantities, before the end of the gas day;
- the TSOs will check the schedules and the point or points chosen by the shippers whose bids have been selected. Penalties may be imposed if the service is not provided and/or rescheduled to be undertaken in the opposite direction at a later time.



The CRE requires the TSOs to work to implement the following key terms and conditions on 1 November 2019:

- the possibility for shippers, that so desire, to submit a bid the day before (*day-ahead*) that would be automatically converted into a "within-day" bid at the start of the gas day;
- the possibility to launch a call for tenders in MWh/h and not in MWh/d, so that the bids may remain valid throughout the entire gas day. As a result, the volume would apply to each hour remaining in the gas day.

The CRE also requires the TSOs to work on an alternative solution for notification by return e-mail on the points chosen by the shippers whose bids have been selected.

The TSOs will split the management of *locational* spread on a periodic basis of 50%. Each TSO will be responsible for interventions on alternate weeks. This split must not affect management of the mechanism and the shippers.

Penalties in the event of non-compliance with locational spread conditions

The penalty will be calculated on the following formula:

$$P = Q_d \times 25 \% \times \frac{D_r}{D_i} \times P_{moy} + Q_d \times (|P_{tr} - P_{moy}|)$$

With:

- Q_d : the quantity concerned at the network point
- D_r : delay duration, in hours
- D_i : duration of gas day covered by the *locational* spread, in hours
- P_{moy} : average price for the day at the PEG France
- P_{tr} : price of successful bid

Monitoring storage levels downstream from bottlenecks and preventive mechanisms in the event of gas deficits

Monitoring storage levels downstream of bottlenecks

The TSOs will monitor storage levels downstream of bottlenecks during the winter, using the proposed mechanism. They will define the parameters to be used for monitoring purposes, which they must present to the market players in the Concertation Gaz process.

The TSO's will publish their monitoring results once a week during winter. If the network becomes stretched, i.e. if monitoring reveals a deficit of gas in storage facilities downstream of bottlenecks, triggering a preventive mechanism in the two-week period, the TSOs must publish their monitoring results more frequently to keep the market informed.

Preventive mechanism in the event of a gas deficit in storage facilities downstream of a bottleneck

If there is a medium-term risk to the continuity of supply, trading interruptible capacity downstream of bottlenecks shall be interrupted temporarily. In practice, when a risk of a gas deficit in storage downstream of bottlenecks is detected through the monitoring tool, interruptible capacity downstream of bottlenecks would not be traded four weeks before the detected risk of deficit.

The sale of interruptible capacities can resume the moment the risk detected disappears.

If the non-trading of interruptible capacities is insufficient, the TSOs can use a *flow commitment* downstream of the limits. Shippers can respond to calls for tenders by the TSOs to transport gas from any point downstream of the limit identified, with the exception of storage facilities. They can also respond by committing to reduce exits at interconnection points downstream of the limits.

A *flow commitment* can be proposed, in relation to the date for which the risk of a gas deficit in downstream storage facilities was identified by the monitoring tool. This will be for an initial period of 7 days to enable shippers to respond to calls for tenders, added to which is the delivery timeframe based on the missing volume:

- 3 weeks for a identified need over or equal to 900 GWh;
- 2 weeks for an identified need between 450 and 900 GWh:
- 1 week for an identified need lower than 450 GWh.

Flow commitment calls for tender will specify:

- a delivery start date;
- a total volume to be delivered over a determined period;
- a maximum possible daily flow that can be demanded by the TSOs each delivery day the day before for the following day;
- the entry points eligible for the flow commitment.

The contractual agreement with the *flow commitment* provider shall be made by the TSO managing the point or points selected for the flow commitment.

The TSOs will be able to ask the provider to adjust its daily flow the day before, within the limit of the maximum daily flow specified in the call for tender and at a constant volume over the period. Tere ga and GRTgaz will financially compensate, a posteriori, the provider for the difference between the market price for the day and the average price for the period. This difference would apply on the difference between the daily flow asked by the TSO with a send-out at a constant level over the period.

Splitting of costs between the TSOs

The costs of mechanisms to manage the limits (*locational* spread and *flow commitment*) will be split *in proportion* to the authorised income of GRTgaz and Teréga.

The present deliberation will be published in the *Official Journal* of the French Republic, on the CRE website and both GRTgaz and Teréga will be notified.

Deliberated in Paris on 24 July 2018.

For the Energy Regulatory Commission,

The Chairman,

Jean-François CARENCO

6. APPENDICES

Comprehensive map of all possible bottlenecks

