COMMISSION DE RÉGULATION DE L'ÉNERGIE

DELIBERATION NO. 2017-246

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

Participating in the meeting: Jean-François CARENCO, President, Catherine EDWIGE, Hélène GASSIN, Jean-Laurent LASTELLE and Jean-Pierre SOTURA, Commissioners.

Translated from the French: only the original in French is authentic

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 these networks" and "the conditions of use of natural gas transmission [...] networks [...] including the methodology for establishing the tariffs for 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 developed by the operators and relating to the balancing of natural gas networks [...]".

This deliberation concerns the operational conditions for creating a single gas market area in France on 1 November 2018. It forms part of the roadmap towards a single gas market area in France as defined by the CRE in 2012[1].

In order to relieve the existing congestion between the GRTgaz network North and South zones and to enable the creation of a single market area common to GRTgaz and TIGF, the CRE adopted, in its deliberation of 7 May 2014, the investment configuration associating the reinforcement of the Val de Saône pipeline and the Gascogne Midi project. These new infrastructures, developed by GRTgaz and TIGF, have been designed to enable the creation of a single area at an optimised cost. Consequently, in certain network configurations of use, residual congestion could exceptionally occur. This deliberation retains the contractual mechanisms to relieve this congestion so as to ensure the availability of firm capacity. In order to define the most relevant mechanisms, the TSOs have studied the occurrence of residual congestion and the solutions that could be implemented to remedy them in the Concertation Gaz process. At the end of this work, the TSOs submitted a joint proposal to the CRE.

In addition, pending the commissioning of new works, and while the 2016-2017 winter was marked by a South-East congestion that resulted in constraints in the nomination of certain players, this deliberation also focuses on the solutions to remedy such a situation if this congestion were to re-occur during the 2017-2018 winter, as well as the changes in the price of imbalances.

The CRE carried out a public consultation from 27 July to 15 September 2017[2], in order to present the CRE's preliminary analyses on the TSO's proposal and to request input from market players.

Thirty contributions were sent to the CRE:

- 17 from shippers or shipping associations;

[1] CRE resolution dated 19 July 2012 forming guidelines on the changes to gas marketplaces in France
[2] Public consultation of 27 July 2017 no. 2017-012 relating to the creation of a single gas market area in France

- 6 from industrialists or industrial associations;
- 5 from infrastructure managers;
- 1 from a foreign regulator;
- 1 from an association.

The non-confidential answers are published on the CRE's website.

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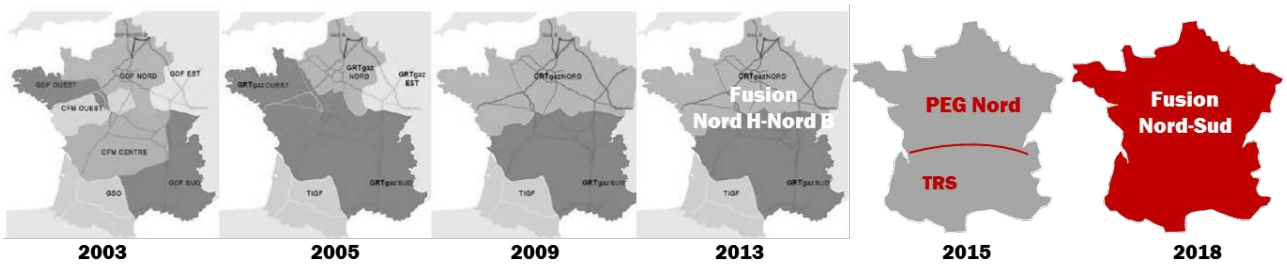
1. CONTEXT: THE OBJECTIVE OF THE CREATION OF A SINGLE MARKETPLACE

1.1 From seven zones in 2003 to a single area in 2018

Since 2003, five mergers have enabled simplifying the contractual architecture of the network for the benefit of end users. The French transmission network has moved from seven balancing zones in 2003 to three in 2009. On 1st April 2013, the low calorific gas (L gas) zone was added to the perimeter of the PEG Nord gas exchange point. Since 1st April 2015, the system has been reduced to two marketplaces, including the *Trading Region South* (TRS), shared by GRTgaz and TIGF. The deliberation of 22 May 2014[3] identified the operating rules of the TRS zone, common to the GRTgaz South and TIGF zones.



These network reconfigurations simplify shippers balancing and enhance the liquidity of wholesale markets. They result in a more straightforward use of the gas network and an increase in the arbitrage possibilities. Consequently, users of the French natural gas networks have gradually been able to access a more liquid and more competitive market, regardless of their location in France.

1.2 The expected benefits of the North and South zone merger

The French gas market is currently divided into two zones, the PEG Nord and the *Trading Region South* (TRS). The capacity of the transport pipelines connecting these two zones is insufficient to fully meet the transit needs from one zone to another, from North to South. While the North has significant interconnection capacities with the Norwegian, German and Belgian networks, the North-South link capacity does not cover all of the needs in the South zone. Consequently, to cover its supply, the South zone depends on about 40% from the Fos-sur-Mer liquefied natural gas (LNG) terminals. However, the price of LNG is subject to the vagaries of world demand and has frequently been higher than gas for several years now. As a result, price spreads between the PEG Nord and TRS zones have widened, per period, to the detriment of users in the South of France.

The creation of a single marketplace will enable:

- the introduction of a single price on French wholesale markets, to the benefit of all French users, particularly those in the South, who are currently penalised by the North and South price differences;
- a more liquid, less volatile and more competitive French market better integrated in the European market;
- the reinforcement of France's security of supply, with improved access to the various gas sources.

1.3 The stages in the project to create a single marketplace

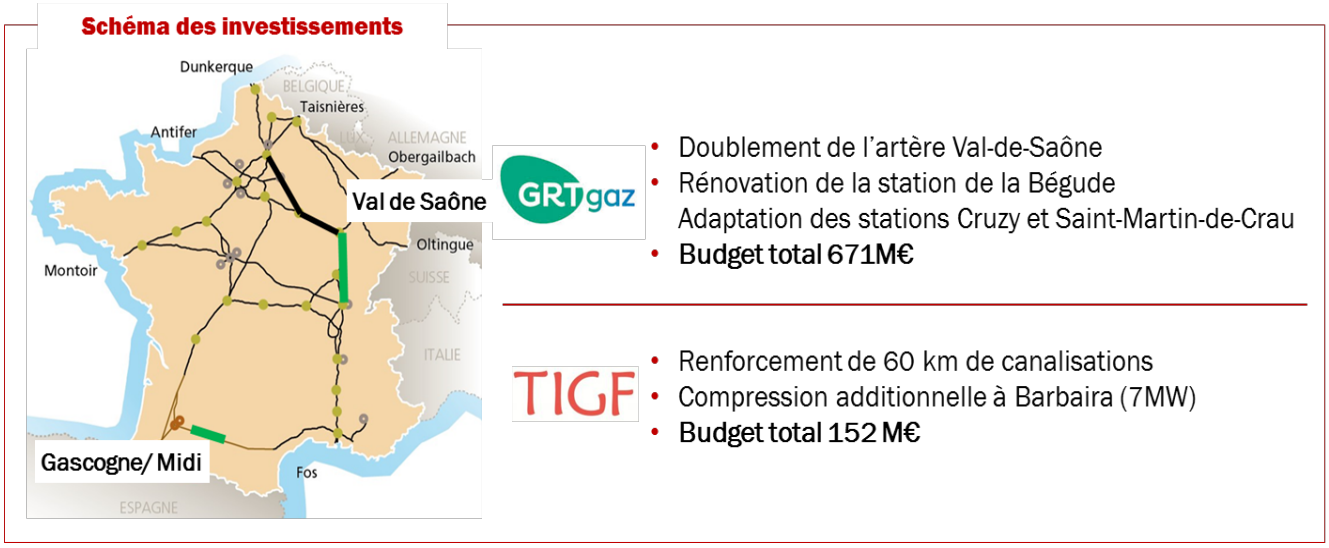
1.3.1 In 2014, an optimised works configuration was decided on, which does not remove all congestion in all configurations

The deliberation of 19 July 2012[4] set the objective of creating a single market area in France by 2018 at the latest. The studies and extensive consultation conducted in 2012 and 2013 concluded that the creation of a single marketplace in France required easing the North-South congestion via the strengthening of the transport network.

In 2013, the CRE asked Pöyry consulting company to study ways to ease congestion on the North-South link as well as the benefits expected from a single marketplace. The Pöyry study[5] looked at three possible scenarios for the evolution of the gas market, depending on the LNG price in Europe. The economic profitability of the four investment schemes was then analysed, according to the three scenarios. Pöyry, with the help of the TSOs, modelled residual congestion in order to compare the contribution of new structures in terms of possible firm flows for each investment scheme.

[3] Deliberation of the French Energy Regulatory Commission of 22 May 2014 on the decision concerning the operating rules for the marketplace common to the GRTgaz South and TIGF zones as at 1 April 2015
[4] CRE resolution dated 19 July 2012 forming guidelines on the changes to gas marketplaces in France
[5] Link to the Pöyry study

Following this analysis and the public consultation launched in 2014, the Val de Saône and Gascogne Midi projects, uniting GRTgaz and TIGF, were selected by the deliberation of 7th May 2014[6]. The choice of this investment configuration with a total target budget of €823M, is the result of a comparison of the investment costs and the expected benefits in each of the scenarios. An investment scheme that removed all congestion would have been too expensive. The chosen structure, which deals with almost all network configuration use at a lower cost, requires the implementation of contractual congestion relief mechanisms on an ad hoc basis to ensure the use of firm capacities.



In addition, the 30 October 2014[7] deliberation defined the incentive regulation regime applicable to these investments. In particular it provides that GRTgaz and TIGF may receive a premium of up to €16M, €4M respectively if the works are commissioned on 1st November 2018. Work on the structures has been initiated and is taking place at this stage according to the planned timetable.

1.3.2 The TRS, the last step before the creation of a single marketplace

1.3.2.1 Since 1 April 2015, the TRS combines the former PEG Sud and TIGF

The 22nd May 2014 deliberation created a "*trading region*" type system. This system, defined by ACER in its European target model from 2011[8], enabled the creation of a joint marketplace for several balancing zones. Consequently, since 1st April 2015, the TRS is composed, on the one hand, of a *"trading region"* comprising the TRS gas exchange point and all the existing interconnection points (network interconnection points (PIR), transport storage interface points (PITS), LNG terminal transmission interface points (PITTM)) for each TIGF and GRTgaz Sud balancing zone, and on the other hand, two consumption zones, TIGF and GRTgaz Sud. These consumption zones include all delivery points to end users in the TIGF and GRTgaz South balancing zones.

1.3.2.2 Reminder of the mechanisms implemented by TIGF and GRTgaz to jointly operate the TRS

- TRS operating rules

Transactions on the single PEG are firm and the exchanged gas is delivered to all points attached to the *"trading region"*.

These transactions are nominated to GRTgaz, who is responsible for managing the PEG.

- Management of the contractual and physical balancing

The contractual imbalance of each shipper is calculated globally on the scale of the whole "*trading region*". For each shipper, the TSOs distribute this overall imbalance between the two balancing zones using a key specific to each shipper category.

- Maintenance management between the GRTgaz and TIGF networks

Localization of the limitations due to maintenance work takes into account the direction of the gas flow at the interface between the GRTgaz and TIGF networks. If the flow is in the direction GRTgaz Sud to TIGF, the capacity

[6] Deliberation of the French Energy Regulatory Commission dated 7 May 2014 setting out guidelines for the creation of a single marketplace in France by 2018
[7] Deliberation of the French Energy Regulatory Commission dated 30 October 2014 concerning the incentive regulation mechanism for the Val de Saône and Gascogne/Midi projects (in French)
[8] Gas target model for the European market updated in 2015

limitations are reported in the TIGF zone (Spain interconnections, Lussagnet PITS injections). If the flow is in the direction TIGF to GRTgaz Sud, the capacity limitations are transferred to the GRTgaz Sud zone (South to North link, injections at South Atlantic and South-East PITS).

1.3.2.3 Impact of the TIGF and GRTgaz South marketplace merger

The merger of the TIGF and GRTgaz Sud marketplaces made it possible to simplify the use of the network, balance shippers and has enabled the emergence of a more liquid TRS wholesale market. The boom in gas trade at PEG Nord and the TRS demonstrates the dynamism of the wholesale market and the increase in arbitrage opportunities for shippers.

The concentration ratios for the French wholesale gas markets (Herfindahl-Hirschmann indexes) show that, since 2014, concentration on the spot markets in the North and South of France has been satisfactory for purchases (HHI of nearly 600 in the first half of 2015 at the PEG Nord and in the TRS zone) and average for sales (HHI around 1300 at the PEG Nord and 1300 for the TRS zone). For the long-term gas markets, concentrations remain high, particularly for sales, in the South of France[9].

Finally, the integration of PEG Nord with the North-West European markets is very good. The correlation of prices with other marketplaces in the zone is high.

1.3.3 2016-2018: The preparation for the merger of zones mobilises all market players

1.3.3.1 The tariff framework relating to the merger of the zones was specified in the deliberation of 15 December 2016 on the ATRT6 tariff

The general structure of the gas transport tariffs (ATRT6) at the creation of the single area was defined by the CRE in the deliberation of 15 December 2016[10]. The exact level of the various tariff terms at the time the single marketplace comes into effect will be established by the CRE in its deliberation establishing the price changes for 1st April 2018, scheduled for the end of 2017. In particular, the ATRT6 tariff stipulates that, on 1st November 2018, the North-South link capacity charge shall disappear and the exit charge at Pirineos PIR shall increase, but to a lesser extent, so as to reflect the reality of transit costs.

1.3.3.2 The implementation of works for the creation of a single marketplace

In 2016, GRTgaz obtained ministerial authorisation for the reinforcement of the Val de Saône pipeline and authorisation relating to the compression stations. The work to install the Val de Saône pipeline and the delivery of the Etrez compressor took place from April to October 2017. The compressor stations at Saint-Martin-de-Crau were commissioned at the end of the summer in 2017. 2018 will be dedicated to the testing, restoration of the land around the pipeline and commissioning of the Voisines, Palleau and Etrez stations.

TIGF has compiled authorisation files for the Gascogne Midi pipeline and obtained an inspection permit for installations classified for the protection of the environment (ICPE). In 2018, TIGF will be required to conduct tests, overhaul and commissioning of the Barbaira station and the Gascogne Midi pipeline.

At this stage, the objective of putting the works into service by 1st November 2018 at the latest is maintained.

The TSOs inform (at least quarterly) the market on the progress of this work, via their websites.

- For TIGF:

https://www.tigf.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

If there is a risk of delay in the date of 1st November 2018, whether linked to infrastructure works or to the operational implementation of the TRF, transporters will inform the market players in a specific manner. The CRE asks the TSOs to work on alternative plans in case of delays in commissioning of the works and present them at the Concertation Gaz.

1.3.3.3 Process for defining the operating rules of the future single market area

Within the framework of the "contractual structure of the network" working group of 2nd June 2016 of the Concertation Gaz[11], the TSOs presented in detail the project to create a single marketplace. The creation of a specific "single marketplace" working group was decided. Ten meetings of this dedicated working group and four meetings within the framework of the working group on the "contractual structure of the network" were held between October 2016 and June 2017.

[9] CRE reports on the functioning of wholesale markets
[10] CRE deliberation forming a decision on the next tariff for the use of GRTgaz and TIGF natural gas transmission networks (known as "ATRT6")
[11] All of the presentations and reports are available on the Concertation Gaz website

Initially, the approach adopted at these meetings consisted in validating possible market situations and in modelling the residual congestion that could result from them, in order to anticipate it and be able to define the mechanisms necessary to overcome this congestion.

In a second stage, the possible mechanisms for removing residual congestion were studied in detail. The most relevant mechanisms were selected, and the operating rules for the future single market area were presented.

The TSOs made a *serious game*[12] available to the market; shippers can project into the future single market area and act on their capacity portfolio in different flow scenarios to test the various mechanisms considered and evaluate their impacts on congestion.

In addition, on 30th June 2017, the CRE published a simulation tool based on a five-year history to estimate the occurrence of residual congestion according to diverse flow assumptions. With this tool, available on the CRE website[13], market players can evaluate the limits of the gas system by changing the level of certain variables (LNG terminal emissions, CCGT consumption, nominations at certain border points).

[12] Game of Flows simulator
[13] Access the residual congestion simulation tool on the CRE website

2. GENERAL OPERATING OF THE SINGLE AREA

2.1 Conditions for network use within the framework of the single area

The TSOs have proposed the following conditions of use of the networks. These were received favourably at the Concertation Gaz and by all respondents to the public consultation. The CRE is in favour of it.

2.1.1 *A trading region* model identical to the TRS

The *Trading Region France* (TRF) will operate a single entry/exit zone, divided into two balancing zones (TIGF and GRTgaz). A virtual gas exchange point, the PEG, shall condense the purchase/sale of gas for the entire TRF.

2.1.2 Disappearance of the North-South link charge

The TSOs will continue to market capacities on the North-South link in order to allow shippers to access the capacity until the merger is completed, in accordance with the CRE deliberation of 3rd February 2016[14]. During the public consultation held from 11th December 2015 to 11th January 2016, the market players showed their commitment to visibility on the conditions of access in the South of the territory. This marketing enables anticipating the sale of capacities for the month of October 2018, in order to secure their transmission and to guard against delays in commissioning of the works necessary for the merger of zones. As the capacities subscribed are only invoiced monthly *post hoc*, this early marketing has no consequences.

Thus, the annual proceeds from 1st October 2018 to 30 September 2019 will be auctioned in July 2018; the quarterly income valid from 1st October 2018 to 31st December 2018 will be auctioned in August 2018, and the monthly proceeds from 1st October 2018 to 31st October 2018 will be marketed in September 2018.

The sale of JTS (*Joint Transport Storage*) products and *market coupling* shall no longer take place on the day before the creation of a single market area.

The North-South and South-North capacities will disappear; capacity holders, whatever their maturity, will therefore no longer be invoiced as of that date. Shippers will no longer nominate for the North-South link.

2.1.3 Contractual developments

The transport contracts subscribed with the TSOs are maintained. Client holders of the fixed delivery charge to PEG Nord or TRS will automatically benefit from access to the PEG, at the fixed price of €500/month and the variable price of €ct1/MWh delivered, as planned in the ATRT6 deliberation tariff.

2.1.4 Modification of PITS

The North Atlantic and South Atlantic PITS, now attached respectively to the northern zone and southern zone of GRTgaz, will merge into a single PITS, the Atlantic PITS. In its file for the tariff update as at 1st April 2018, GRTgaz proposes to maintain the North-Atlantic/South-Atlantic distinction until 1st April 2019. The CRE will decide its position on this proposal in its deliberation on the update of the ATRT6 as at 1st April 2018.

2.2 Balancing zones and distribution of the imbalance

GRTgaz will merge the North and South balancing zones; the TIGF balancing zone remains identical. The TSOs propose that the distribution of imbalances between the TIGF zone and the GRTgaz zone be based on the rule adopted for the TRS.

Accordingly, the contractual imbalance of each shipper should be calculated globally on the scale of the whole "*trading region*". Then, each day, the TSOs shall divide this global imbalance of a portfolio between the two balancing zones, GRTgaz and TIGF. The key to distributing the imbalance would depend on the type of shipper: end client supplier, importer/exporter, PEG *trader*. This key per type of customer allows the imbalance to be attributed more discerningly to each balancing zone concerned, in order to reflect the responsibility of the shippers in the actions taken by each of the TSOs to restore the balance. Consequently:

- the imbalance of a shipper who delivered gas to end users ("supplier" type shipper) would be divided between the two balancing zones in proportion to their allocations at the delivery points. This key is the most accurate; it takes into account the location of the end clients served by the suppliers;
- the imbalance of a shipper with quantities allocated only as entry and exit of the TRF to the PIR, PITTM and PITS, i.e. not delivering an end user, ("importer/exporter" type shipper) would be distributed in proportion to the entry and exit allocations of the TRF at PIR, PITTM and PITS. This key is a simplified

[14] CRE deliberation of 3 February 2016 deciding on the rules for selling transmission capacity at the link between GRTgaz's north and south zones

modelling of the gas flow, making it possible to approach the quantities distributed in each of the GRTgaz and TIGF zones;

- the imbalance of a shipper having exclusively conducted transactions at the PEG ("*trader*" type shipper) would be entirely allocated to the GRTgaz zone. If it is not possible to establish the location of the gas delivered to the PEG, the imbalance cannot be affected to one or other of the balancing zones. It is therefore considered by default that the shipper imbalance is fully borne by GRTgaz.

All players are in favour of the TSOs' proposal concerning distribution of the imbalances within the single marketplace.

The CRE considers that the cost allocation proposed by the TSOs provides, on the one hand, continuity with the existing practice within the TRS and therefore simplicity for shippers, and on the other hand, accurate distribution of the imbalances based on the quantities allocated in each balancing zone. It is therefore in favour of it.

2.3 Treatment of work in the single marketplace

2.3.1 Improved maintenance process

At the request of the CRE and to meet the needs of shippers, in 2016, GRTgaz launched a work impact minimisation committee, to optimise maintenance work, with the objective of reducing capacity restrictions by 20%. Two marketing measures have been taken to reduce restrictions on firm capacities:

- the release of D-1 (*day-ahead)* capacities from 1st April 2017: the TSO may offer shippers previously announced capacities as unavailable due to maintenance work, if the network allows it in *day-ahead*;
- the creation, in the summer of 2017, of the *Optiflow* offer, which makes it possible to share restrictions on work superpoints (the composition and operation of the superpoints are detailed in sections 2.3.3 and 2.3.4.1 below).

In addition, since 2016, GRTgaz has reduced its restrictions on security searches and has optimised its calculation methods for maintenance works.

As a result, the applied restrictions have decreased by 10% between 2016 and 2017. The target announced was a 20% reduction, but due to major development projects, restrictions in 2017 were more frequent than in 2016. Several of these projects were linked to the preparation of the TRF: reverse flow to Cruzy and the construction of the Val de Saône pipeline, but also projects related to the obsolescence of the automated stations and projects related to the new reverse flow marketing offer at Oltingue. Excluding this work, the restrictions would have decreased by about 30% between 2016 and 2017.

2.3.2 Programming of works

The rules defined by ENTSOG[15] require TSOs to publish their works programme with a monthly grid restricted rate in November of the previous year.

GRTgaz publishes a provisional planning in August of the previous year, and then the publication takes place in November and a binding update takes place in February of year N.

TIGF publishes its planning in November of the previous year and updates it in March, at the same time as the PITS work planning is published.

These work schedules inform shippers of the restrictions that would be applied to interruptible and firm capacities. They allow shippers to implement alternate transmission solutions as required.

The TSOs have expressed their desire to maintain their market information process unchanged.

The players that responded to the public consultation estimated their satisfaction regarding publication of the TSO works programmes. Some players consider that these programmes could be in greater detail.

The CRE has noted that the programming of works is currently operating well and is in favour of its extension in the context of creating the TRF.

2.3.3 Operating of "superpoints"

Currently, the work carried out on TSOs' networks affects the availability of interruptible capacities and, subsequently, firm capacities.

On the GRTgaz network, this translates into a capacity reduction on each of the points notably on the North-South interruptibility when maintenance works involve the "core network".

[15] Since 2011, ENTSOG has been working on the harmonisation of formats and schedules for publication of works on European TSO networks.

With the creation of the TRS zone in 2015, TIGF changed its offer by introducing a superpoint re-grouping the Lussagnet PITS and Pirineos PIR.

The superpoint consists of a grouping of several points (PIR, PITS or PITTM). Instead of being applied to each of the points, the capacity restriction is shared over all the points constituting a superpoint. For example, a shipper who holds capacities on all the points forming the superpoint could choose to nominate up to the capacities available to them on one of the points within the limits of their subscribed capacities on that point or to divide their nomination over several of them. Once the shippers with capacity on the superpoint have nominated to their needs, the remaining capacity within a superpoint is made available and can be allocated by re-nomination (or UIOLI)[16] to shippers who would like to use capacity beyond their operational capacity on the superpoint. Superpoints function like communicating vessels to maximise the available capacity based on shippers' choices, rather than imposing restrictions on each point on the network.

Four work superpoints were set up by GRTgaz in the summer of 2017. These superpoints include the following interconnection points:

- PIR Dunkerque + PITTM Dunkerque LNG
- PIR Dunkerque + PITTM Dunkerque LNG + PIR Taisnières H and PIR Alveringem
- PIR Taisnières H + PIR Obergailbach
- PIR Taisnières H + PIR Obergailbach – PIR Oltingue

As of 1 November 2018, the TSOs propose the creation of new superpoints according to the diagram below. This list may change in the future, in particular for managing the work. The TSOs expect that superpoints would be activated in the event that maintenance would affect the East-West or South to North flows of their networks. The composition of each superpoint is detailed in the following paragraph.

2.3.4 Impact of maintenance work

2.1.1.1. TSOs' proposal

GRTgaz's proposition is to affect the maintenance works according to the following rules:

- if the work relates to a particular point, the capacity limitation relates to the point concerned;
- if the works are located on the northern structures of the GRTgaz network (limits N1, N2, N3, NS1 described in the table below), the mutualised restriction concerns the superpoints located upstream to it.
- if the works are located on the southern structures of the GRTgaz network or on the TIGF structures (NS2, NS3, NS4, S1 limits described in the table below), the mutualised restriction applies to the superpoints located downstream of the limit concerned.

[16] The UIOLI service allows a shipper to nominate capacity beyond their subscription. If the nominated capacity is available (either because it is unsold or because it has been subscribed but not used by its primary owner), it is allocated to the shipper.

"Mutualised restrictions" apply in proportion to the subscribed capacity. Shippers are informed of this in the previous year, according to the works programme publication schedule described in paragraph 2.3.2. They are effective from the first nomination cycle.

Moreover, in exceptional cases where work is carried out outside the summer period, this rule must be declined according to the level of consumption. Certainly, when consumption is very high, restricting all downstream capacities is not sufficient to relieve congestion for work on the NS2, NS3, NS4 and S1 limits:

Consommation France (GWh/j)	Eté à hiver doux (consommation inférieure à 1750 GWh/j)	Hiver moyen à froid (consommation comprise entre 1750 et 2800 GWh/j)	Hiver très froid (consommation supérieure à 2800 GWh/j)
N1/2/3 et NS1	Amont		
NS2 et NS3	Aval	Amont	
NS4 et S1	Aval		Amont

The table below indicatively lists all studied limits and for each limit, the composition of the upstream and downstream superpoints.

Limits	Upstream Superpoint	Downstream Superpoint
N1	PIR Dunkerque + PITTM Dunkerque LNG	
N2	PIR Dunkerque + PITTM Dunkerque LNG + PIR Virtualys[17]	
N3	PIR Virtualys + PIR Obergailbach	
NS1	PIR Virtualys + PIR Obergailbach + PIR Oltingue	
NS2	PIR Dunkerque + PITTM Dunkerque LNG + PIR Virtualys + PIR Obergailbach + PIR Oltingue + PITS North-East + PITS North-West	PITTM Fos + PITTM Montoir + PIR Pirineos + PITS Lussagnet + PITS Atlantic + PITS South-East
NS3	PIR Dunkerque + PITTM Dunkerque LNG + PIR Virtualys + PIR Obergailbach + PIR Oltingue + PITS North-East + PITS North-West + PITS South-East	PITTM Fos + PITTM Montoir + PIR Pirineos + PITS Lussagnet + PITS Atlantic
NS4	PIR Dunkerque + PITTM Dunkerque LNG + PIR Virtualys + PIR Obergailbach + PIR Oltingue + PITS North-East + PITS North-West + PITS South-East + PITS Atlantic	PITTM Fos + PIR Pirineos + PITS Lussagnet
S1	PIR Dunkerque + PITTM Dunkerque LNG + PIR Virtualys + PIR Obergailbach + PIR Oltingue + PITS North-East + PITS North-West + PITS South-East + PITS Atlantic + PITTM Fos	PIR Pirineos + PITS Lussagnet
EW1	PIR Obergailbach + PIR Oltingue + PITS South-East + PITTM Fos	PIR Virtualys + PIR Dunkerque + PITTM Dunkerque LNG + PITTM Montoir + Pir Pirineos + PITS North-East + PITS North-West + PITS Atlantic + PIR Lussagnet
EW2	PIR Obergailbach + PIR Oltingue + PITS South-East + PITTM Fos + PITS North East + PITS North-West + PITTM Dunkerque LNG + PIR Dunkerque + PIR Virtualys	PITTM Montoir + PIR Pirineos + PITS Atlantic + PITS Lussagnet

TIGF proposes to build maintenance plans through common governance using 3 distinct criteria:

[17] A virtual interconnection point for the Taisnières H and Alveringem points, introduced by the CRE deliberation of 2 February 2017 on the creation of a virtual interconnection point (VIP) between France and Belgium and the introduction of an offer for substitution of bundled capacity by unbundled capacity

- equivalent distribution of upstream and downstream maintenance occurrences;
- equivalent distribution of upstream and downstream limited capacity volumes;
- equivalent distribution of limited downstream capacity volumes between all PITS.

If it turns out that these criteria were not met, TIGF shall propose a change in the restriction distribution key within the work superpoints, to ensure that the actual capacity of the southern PITS offers enough flexibility to guarantee proper filling of storage facilities.

2.3.4.1 Public consultation response summary

All players welcome the principle of superpoints which allows shippers to have more flexibility on their capacities.

As regards the maintenance allocation rule, most of the players that responded to the public consultation were in favour of the GRTgaz's proposal. These players consider that the initial rules need to be clear and indicate that the GRTgaz's proposal will make it possible to have an attractive price on the PEG. They reiterate that this is one of the objectives of creating the TRF.

Some players are sensitive to the TIGF's arguments and are concerned about seeing PITS and PIR capacities in the South of France too often restricted. They are requesting that the establishment of the TSOs' work programmes be the subject of coordination between GRTgaz and TIGF, in the aim of minimising the overall impact of maintenance work on the availability of firm capacities.

Most players want the impact of maintenance work on the availability of PIR and PITS to be monitored and subject to feedback at the Concertation Gaz.

2.3.4.2 The CRE's analysis

The CRE considers that the implementation of superpoints is an improvement for shippers, in that it allows them to enjoy increased availability of capacity on the points that they prefer. This system is favourable to shippers who have capacities on several points of a superpoint. It is also useful for those who only hold one point, since it can generate new capacities via the re-nomination mechanism (or UIOLI). The CRE is therefore in favour of the implementation of new superpoints to manage the impact of the work on the GRTgaz and TIGF networks.

Concerning the repercussion rules governing maintenance work, the CRE calls to mind that the creation of a single marketplace must, on the one hand, make it possible to guarantee the availability of firm capacities, and on the other hand, allow all consumers to benefit from an attractive gas price. In this context, too much restriction on entries supplying France is not desirable because it would make the French market price more expensive.

The figures presented by GRTgaz at the Concertation Gaz show that the upstream/downstream allocation of restrictions as proposed by GRTgaz enables for a balanced repercussion of maintenance between the upstream points and downstream points on the French network (approximately 50% downstream/50% upstream in volume and number of occurrence).

The CRE is also sensitive to the TIGF's concern regarding the availability of southern PITS and the Pirineos PIR. It would like the indicators proposed by TIGF to be monitored and used to inform shippers of the impact of maintenance on the availability of capacities in the South of France. It requests that the TSOs refine these indicators and define any other relevant indicators with market players within the framework of the Concertation Gaz. The CRE will also monitor the reduction rates applied to these points and feedback must be given within the framework of the Concertation Gaz.

Finally, the CRE considers that good coordination is vital between the TSOs for establishing work programmes.

Consequently, the CRE retains GRTgaz's proposal as allocation of maintenance work, by default, but asks the TSOs to consult one another when establishing work programmes, in the aim of finding the least restrictive solution for shippers. If this consultation work leads to a TSO consensus on solutions minimising the hindrance for shippers, the TSOs will be able to derogate from this rule by default.

A possible subsequent modification of the allocation rule could be envisaged on the basis of feedback and market demands.

2.4 Treatment of maintenance work with an impact of less than 30 GWh/d

Within the framework of the works schedule, the published restriction volume takes into account, on the one hand, the intervention on the structures and, on the other hand, the anticipation of the flow patterns for a given day. In some cases, TSOs restrict capacity in a preventive manner, as they do not believe they can guarantee capacities in a summer flow configuration, taking into account the work in progress.

However, a large part of the work carried out on the GRTgaz network has an impact of less than 30 GWh/d, which currently only results in a reduction the day before of the availability of interruptible capacity of the North-South link. GRTgaz estimates the share of these "small maintenance works" to be 50% of all maintenance days on 2016 and 2017 work programmes.

The TSOs propose to not apply a preventive mutualised restriction *a priori* when the impact of maintenance is less than 30 GWh/d. They consider that this would generate too many restrictions (between 50% and 80% of the days on the 2016 and 2017 maintenance plans). However, they propose to display in their works planning, the capacity volume that will not be available, but without applying any restriction, when defining the annual planning. On D-day, if congestion actually occurs, it will be dealt with by mechanisms for easing congestion, even if they are partly due to maintenance works.

The TSOs estimate the cost of such a measure to be approximately €2.6M a year.

All of the players that responded to the public consultation are in favour of dealing with maintenance works that has little impact due to congestion removal mechanisms, as proposed by the TSOs.

Concerning the proposed threshold of 30 GWh/d, most players find it appropriate. One player wants this threshold to be raised to 50 GWh/d.

Given that the congestion removal mechanisms will be introduced when the single marketplace is created, the CRE considers that it would be appropriate to use them to reduce the impact of small-scale maintenance on shippers for which a mutualised restriction would be too restrictive. The CRE considers that initially the threshold of 30 GWh/d is suitable.

Furthermore, the CRE considers it essential that work programmes continue to give shippers information on all maintenance work, even if the choice is made to treat some by means of mechanisms for congestion removal.

The CRE also stresses the importance of good coordination between the infrastructure operators (GRTgaz, TIGF, Storengy, Elengy, Dunkerque LNG and adjacent transmission system operators) in order to minimise the impact of work on the availability of capacity.

Finally, the CRE asks that feedback from experience be presented at the Concertation Gaz in order to measure the cost of this provision and to possibly reassess the 30 GWh/d threshold.

3. EVALUATION OF RESIDUAL CONGESTION

3.1 Identification of network limits

After the commissioning of the Val de Saône and Gascogne Midi structures, depending on the flow situation some residual congestion shall continue to exist. It can be of three types: North-South congestion, East-West congestion and South-North congestion.

North-South congestion corresponds to a situation in which the price of LNG is higher than that of gas from the Russian and Norwegian fields. This is reflected in the low use of LNG terminals, notably Fos, and in Spain importing gas from France.

The South-North congestion could be encountered in the case of a low-cost and very available LNG compared to the gas coming from pipes, which would lead to a massive influx of LNG into the South of France, and from Spain. This type of procurement scheme has never been encountered to date.

Finally, East-West congestion could only occur if massive LNG inflows to Fos and Dunkerque were correlated with an LNG shortage in Montoir and Spain. No identified economic scenario would produce this result.

In collaboration with shippers, TSOs considered that the most likely congestion during the next few years is congestion in the North-South direction. They are broken up into 4 fronts: NS1, NS2, NS3, NS4, as described on the map below.

GRTgaz and TIGF have established, under certain hypotheses, the maximum quantity that can pass through each of the congested fronts. By comparing these defined quantities with historical flows modified according to various scenarios, the TSOs were able to quantify the occurrence of residual congestion according to these scenarios.

Most players that responded to the public consultation confirmed this shared view within the framework of the Concertation Gaz: congestions in the north-to-south direction are the most likely to recur in the future.

However, some shippers believe that other flow situations are possible and that the congestions removal mechanisms retained should enable all types of congestion to be removed.

The CRE shares the TSO's analysis of the most probable congestion in a single market area context. Indeed, although several types of congestion are theoretically possible, a scenario with little LNG in the French terminals and the Iberian Peninsula leading to congestion in the north-to-south direction is the most likely to recur in the coming years.

Shippers who took part in the Concertation Gaz process shared this vision. Consequently, the analysis of residual congestions carried out by the TSOs was centred only on congestions in the north-south direction.

Nevertheless, the mechanisms retained by this deliberation are effective in all flow configurations.

3.2 Quantification of daily residual congestion

3.2.1 Description of the study

The objective of modelling is to analyse occurrences and congestion levels according to shipper supply patterns. Since north to south transport capacities remain limited, TSOs have chosen to model scenarios that are both economically feasible and capable of highlighting residual congestion. Therefore, for the study, only supply scenarios involving particularly large flows from north to south were retained. The numerous other probable supply scenarios present no congestion risk.

Flow scenarios are constructed on the historical consumption and flow data at PIR, PITS and PITTM for the years 2012 to 2016. These flows are then distorted according to assumptions such as entries to the PITTM, consumption of CCGTs (combined cycle gas turbines) and exits towards Spain. In order to respect the French balance, when the assumptions under consideration lead to more network exits, the flows to the PIRs in the North of France are increased accordingly.

In order to allow stakeholders to visualise the occurrence of congestion with other hypotheses than those used in these two scenarios, the CRE has published a simulator on its website[18]. This simulator gives results close to those obtained by the TSOs. The differences are due, primarily, to the fact that the observation period taken by the TSOs is from 1st September 2011 to 31st August 2016, whereas the CRE considered full years and had to make some approximations, notably on the consumption of CCGTs, in order not to disclose commercially sensitive information in the published file.

Several flow scenarios with increased stress levels were modelled and presented by the TSOs to the shippers. For the subsequent work in the Concertation Gaz process, the TSOs decided to adopt a so-called baseline scenario, which corresponds to a strained situation in the gas system.

3.2.2 Baseline scenario

3.2.2.1 Hypotheses and results

The so-called "baseline scenario" represents a strained situation. This scenario was chosen with the aim of sizing the mechanisms for easing congestion. This model is "pessimistic" because it places the network in a strained situation that has never happened in the past:

[18] The simulation tool is available on the CRE website

	Strained scenario (baseline)
Description	Expensive and scarce LNG, heavy use of CCGTs
Hypotheses	**LNG = technical minimum:** • Fos: **40 GWh/d** *against 164 GWh/d on average in 2016* • Montoir: **40 GWh/d** **Flow to Spain = subscribed capacity:** • Pirineos winter: **146 GWh/d** *against approximately 120 GWh/d on average historically* • Pirineos summer: **146 GWh/d** *against approximately 88 GWh/d on average historically* **CCGT = highest consumption average:** • CCGT winter: **71%** *against approximately 26% on average historically* • CCGT summer: **62%** *against approximately 12% on average historically*
Occurrence of congestions (results presented in Concertation)	**10.5%**: 38 days per year (29 days in the summer, 9 days in the winter)

In the baseline scenario, congestion is observed in around 1 day out of 10. The distribution of occurrences of limits varies according to the seasons and the years:

- limits are mainly reached in the spring, at the beginning of the injection period;
- for the year 2012, congestion would have appeared in only 3% of the days, whereas in 2016, it would have appeared in about a quarter of the days.

These flow model results are sensitive to gas supplies, the use of CCGTs and injections in the storage facilities. Overall, even within the baseline scenario, which considers strained hypotheses, the limits have a relatively small occurrence and occur mainly in the summer.

The TSOs propose to put in place mechanisms to deal with this residual congestion. The sizing of these mechanisms depends on the flow scenario studied. In this context, the TSOs and shippers in the Concertation Gaz found the strained scenario called "baseline scenario" described in the above table relevant.

3.2.2.2 Public consultation response summary

Several players consider that the baseline scenario is too pessimistic. Some believe it to be relevant in spite of everything because it enables mechanisms to be sized carefully. Others consider that on the contrary a scenario closer to the current situation should have been considered.

3.2.2.3 The CRE's analysis

The results of the strained scenario "baseline scenario" are reassuring in the fact that residual congestions are infrequent and concentrated in the summer. As a result, they will not directly affect gas supply to consumers. However, some shippers will have to delay their injections into storage.

The "baseline scenario" describes a market situation where LNG is expensive, the long-term subscribed firm capacity at the Pirineos PIR is 100% used, and CCGTs operate every day at the level reached at least 10% of the time over the summer and winter. The CRE considers that this situation is much more strained than has been observed historically. However, such a situation is possible in a merged zone: the CRE considers that given that the market dynamics within the single marketplace are uncertain, choosing a strained scenario as a sizing scenario is a prudent choice.

3.2.3 Extreme scenario or "crash test"

The extreme scenario referred to as the "*crash test* scenario" represents an extreme situation. This scenario was set up to test the limits of the system in order to prevent transport rupture situations. In particular, it aims at test-

ing the capacity of the system to cope with the total absence of LNG for extended periods coupled with particularly high levels of exports to Spain.

	Extreme scenario (referred to as *crash test*)
Description	No LNG arrival in France, high use of CCGTs, exceptionally high Spanish exits.
Hypotheses	**LNG = absence:** • Fos: **0 GWh/d** • Montoir: **0 GWh/d** **Flow to Spain = firm technical capacity:** • Pirineos winter: **165 GWh/d** • Pirineos summer: **165 GWh/d** **CCGT = highest consumption average:** • CCGT winter: **71%** • CCGT summer: **62%**
Occurrence of congestions (results presented in Concertation)	**30.1%**: 110 days per year (51 days in the summer, 69 days in the winter)

Most players welcome the initiative of having considered an extreme scenario. They believe that this scenario is extremely unlikely but necessary for testing the system's limitations. Only one player considers that this scenario could occur over all or part of a year.

3.3 Storage filling downstream of summer congestions

3.3.1 Summary of the study carried out by the TSOs and presented at the Concertation Gaz working groups

The new structures are expected to increase the injection capacity of the storage facilities in southern France (Lussagnet, Saline and Atlantic) via the northern entry points by an average of 50 TWh per year.

In the baseline scenario, the capacities made available every day in summer allow for more injections into the South of France storage facilities than the quantities historically injected (2016) downstream of each limit. The quantities injected in summer in the South of France storage facilities are sufficient to avoid the onset of winter congestion or to allow them to be resolved via calls for tender, without risk to the continuity of transport.

In the extreme scenario, the available capacity enables the injection into storage in the summer as much as in 2016, not more. However, this study assumes that shippers shall use all the injection capacities available, whereas in reality shippers make economic arbitrages on a daily basis.

Consequently, in the extreme scenario (no LNG at Fos, CCGT operating intensively and firm flow to Spain at its maximum level), the network transport capacity may not be sufficient to fill the South of France storage facilities to a level equivalent to those observed in the past.

3.3.2 Public consultation response summary

Most players are satisfied with increasing the possibilities of injection into the southern storage facilities in the baseline scenario. They consider that in most possible market situations, the conditions for filling storage facilities in southern France will be better or the same as the current conditions.

However, one shipper considers that the dynamics of using storage facilities will be very different after creating the single marketplace. In fact, this player believes that the southern storage facilities will be used more than at the moment, because they will enable northern France to be supplied. This shipper, therefore, fears that the injection capacity in the South will be insufficient during the summer.

Several players warn that the storage facilities in the South will be less attractive than those in the North for the 2018-2019 gas year. In fact, the filling of storage facilities will be carried out in the TRS zone, whereas withdrawal will be carried out in the TRF zone, and the price of the TRS zone is historically higher for each period. Consequently, TIGF considers that the storage facilities in southern France will suffer a loss of value of around €1/MWh and proposes that it should be compensated by a pricing solution, for example, by higher PITS in northern France than in southern France.

3.3.3 The CRE's analysis

The CRE considers that it is the responsibility of shippers to carry out economic arbitrage in order to favour or not the filling of storage facilities in the summer. The TSO study is reassuring in the vast majority of cases; nonetheless it shows that in extreme scenarios storage downstream of the limits may be poorly filled in early winter.

As a result, the CRE considers that monitoring the filling level of the storage facilities in the South of France by the TSOs is necessary and that conditioned corrective measures must be planned by the TSO.

As regards the 2018-2019 gas year, the CRE, along with several respondents, has noted that the existence of a North-South spread on the summer-winter *spread* products when making storage reservations is likely to make the TRS's storage facilities less competitive. This observation should be qualified by noting that a PEG North-TRS *spread* is fairly unlikely during the summer if southern storage facilities are not booked, as consumption alone in the TRS zone is not sufficient to saturate the North-South link over the long term. In addition, the transmission tariff is not aimed at compensating the possible loss of value for southern storage facilities caused by creation of the single area during the storage year, as the TSO only ensures that there is enough gas stored in the South of France to ensure continuity of supply.

However, the CRE will monitor the evolution of the situation closely, in particular during the storage capacity marketing period in spring 2018. It reiterates that if the storage reform were in place for the coming gas year, reserve prices would be calculated based on market values and would therefore reflect this difference in attractiveness.

4. CONGESTION REMOVAL MECHANISMS

4.1 Principles

If congestion occurs, or is anticipated, the TSOs will use mechanisms. The purpose of these mechanisms is to guarantee that all subscribed firm capacity is available for the shippers to use.

If congestion occurs, the working principle is to alter scheduled flows upstream and/or downstream of the congestion, to reposition them in time and space.

A cost-benefit balance must be achieved when choosing these mechanisms, their sizing, triggering criteria and player remuneration conditions.

4.2 Daily congestions

4.2.1 Mechanisms retained

4.2.1.1 Interruption of interruptible capacities on D-1 and during the day

- Operating principles

TSOs trade interruptible capacities (gas transportation capacities that can be interrupted by the TSOs). Interruption criteria is based on flow diagrams and network constraints. These are set out in the Operational Network Codes (CORE), which can be consulted on the TSO's websites[19].

In the event of congestion, if interrupting interruptible capacities ensures continuity of supply, it is triggered ahead of any other mechanisms.

- Implementation measures

Effective technical capacity on the GRTgaz network is made available to shippers at 3 pm on D-1. Those with interruptible capacities are subsequently informed the day before their capacities are interrupted. On the TIGF network, and on the GRTgaz network for backflow capacities, the potential reduction rate is updated at each programme cycle.

The rules to calculate interruptions could be amended to account for new flow plans. In particular, interruptible capacities would be interrupted within the limit of the level of the anticipated congestion.

- Public consultation response summary

Most players that responded to the public consultation are in favour of the interruption of interruptible capacities where there is a risk of congestion. In fact, these players consider that the purpose of an interruptible capacity is to be interrupted when necessary for the network.

In addition, several industrialists are concerned that this measure may affect interruptible capacities at the points of delivery.

- The CRE's analysis

Interruptible capacities are sold at a lower price than firm capacities to compensate for the risk of seeing capacity interrupted. The CRE considers that it would be unfair to trigger mechanisms incurring a public cost before interrupting interruptible capacities. The CRE therefore considers that interrupting interruptible capacities should be a priority before using any other mechanisms.

The CRE confirms that the points concerned by this measure are those that would exacerbate the congestion, i.e. the upstream entries or downstream exits, as defined in 4.2.1.5. In fact, in the event of North-South congestion, any additional entry in the North and any additional exit in the South would exacerbate the situation. The interruptible capacities at consumer points of delivery are not concerned.

4.2.1.2 Non-trading of unsubscribed capacities on D-1 and D-Day

- Operating principles

If a bottleneck were to materialise, the TSOs cannot trade unsubscribed capacities on congestion-related points. In such situations, the TSOs cannot guarantee these newly sold capacities. Furthermore, if rising physical flows to the points concerned were to exacerbate congestion, not selling available firm capacities is an effective way of restricting it.

[19] The TSO operational network code is available here, and that for the TIGF here

- **Implementation measures**

Trading unsubscribed capacities on D-1, or during the day would be cancelled, if required. The TSOs should inform shippers why short-term sales have been cancelled, in accordance with the European REMIT regulation. In addition, the *UBI (Use It or Lose It) mechanism would not be triggered.*

- **Public consultation response summary**

The vast majority of players that responded to the public consultation are in favour of the non-trading of unsubscribed capacities on D-1 and D-Day. They consider that it is not appropriate to trade these capacities in a congestion context as it might be exacerbated by the increase in flows at the points concerned, and that this measure may help to prevent more expensive mechanisms from being triggered. However, one player considers that this measure must only be applied downstream of congestions, as any application on the upstream points could lead to de-optimisation of the use of the network.

In addition, one player considers that the decision for non-trading of these capacities should be made based on specific criteria established at the Concertation Gaz with market players.

- **The CRE's analysis**

There is a good chance that a shipper purchasing these capacities cannot use them. The CRE therefore considers it preferable to not trade unsubscribed capacities likely to exacerbate congestion before introducing market mechanisms. The points concerned by this measure are those that would exacerbate the congestion, i.e. the upstream entries or downstream exits, as defined in 4.2.1.5. The criteria according to which these capacities would not be traded will be specified at the Concertation Gaz.

4.2.1.3 Locational *spread*

- **Operating principles**

In contrast to notional products delivered to a virtual transfer point (PEG Nord, TRS), locational products consist in buying or selling gas delivered to a specific point in the network (e.g. a transaction focusing on the purchase of 20 GWh, physically delivered to the PITS South-East). The counterparty to the transaction must subsequently amend their nomination at a given point, within a limited time, to ensure a physical flow of gas to the planned location. At present, GRTgaz already uses these products on a trial basis to meet its needs in the event of critical network imbalances, in accordance with the CRE deliberation of 10th September 2015[20].

Locational *spread* is a variant of this principle tailored to congestion. TSOs would simultaneously contract the purchase of gas downstream of the congestion and the sale of gas upstream of it. These two operations may result in a reduced quantity transiting through the bottleneck. These two 'legs' of the locational *spread* can be established with two different shippers. The purchase and sale of gas is settled between the purchaser and seller at the PEG, while nominations by the shippers involved in the locational *spread* enter their balance perimeters but take a neutral position on it, i.e. no rebalancing is required when participating in a locational *spread* as long as the physical movement is equal to the volume purchased or sold for the contracting partner. The nomination made by a shipper either side of the congestion, at the entry or exit point, is matched by a movement at the TSOs' PEG. They act as intermediaries for strictly identical quantities of nominations made on the other side. As such, the mechanism has a neutral effect on balancing each contracting party and on balancing the overall network.

- **Implementation measures**

Tendering procedure

Where there is a risk of congestion on the eve of the next day and ongoing into the day, the TSOs plan to issue a call for tenders for a *locational spread*, by specifying the points identified upstream and downstream (these two sets of points form superpoints) and the required volume in MWh/h.

The TSOs propose that these tendering procedures can be issued throughout the Day-D concerned by the congestion, beginning on D-1, but preferably, where possible, during the working day, so that as many participants as possible can submit offers.

Regulated shippers would submit offers comprising volumes and prices (in € per MWh/h), by purchasing upstream of the congestion and/or selling downstream of it. These offers will be submitted anonymously on the Powernext platform's dedicated screen.

If, at the beginning of a cycle, once nominations have been processed, the congestion indicator confirms that TSOs are required, the latter inform the shippers that a call for tenders is going to be triggered. Shippers then have a deadline to amend or propose new offers. The suppliers select the cheapest offers to reach the required

[20] Deliberation by the CRE of 10 September 2015 on developments in balancing rules of gas transmission networks on 1 October 2015

volume. Finally, the successful shippers re-nominate at the end of the cycle to amend their programme. The ECC clearing house would play the role of counterparty for each transaction.

Re-nomination restrictions

From the moment a shipper's offer has been selected, the total sum of their nominations for the points referred to must not:

- when buying from a TSO upstream of the congestion: exceed the initial nomination level, minus the quantity purchased from the TSO;
- when selling to a TSO downstream of the congestion: go below a set initial nomination level defined as the total of the initial nomination level and the quantity sold to the TSO.

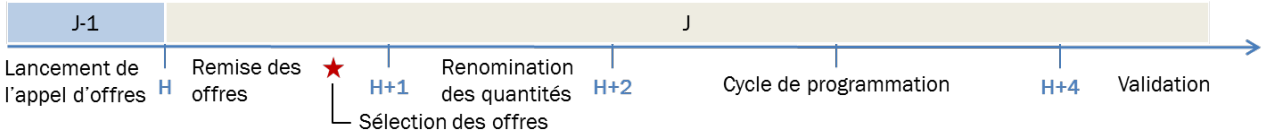
These re-nomination restrictions apply until the end of the gas day and are vital to ensure that the process is effective: the successful shipper cannot simultaneously sell on gas to the TSO and agree to deliver to it downstream of the congestion, and at the same time reduce its delivery downstream at the risk of re-creating the congestion.

Deadline for issuing re-nomination calls for tenders

The TSOs identify the need to trigger the mechanism after processing nominations at the beginning of the cycle. They subsequently inform the shippers that the mechanism will be triggered and the remaining time in the cycle is split into two equal periods:

- a first period to allow shippers to make amendments or post new offers. This period ends with the TSOs selecting the best offers;
- a second period at the end of the cycle to allow the selected shippers to nominate subsequent contracted volumes for the following cycle.

The volumes featuring in the contracts are therefore included in the following cycle, and programmed two hours later. The TSOs will have to set the threshold for triggering the call for tenders so as to keep enough linepack to maintain the network in operational conditions for at least two hours, the time between the congestion occurring and the mechanism taking effect.



Penalties for non-compliance with restrictions

The TSOs propose applying a penalty when a shipper winning the tender does not comply with the aforementioned terms and conditions. This penalty would be proportional to the volume concerned and at the transaction price, plus 25%.

Operational procedures for a bottleneck

Locational *spread* can apply to all network entry points, such as PITS entries, PITTM exits, PIR entries and a large number of exit points, such as PITS transfers and PIR exits. As a result, this process effectively addresses all bottlenecks, in particular the North-South congestion:

	Possible offers upstream of the congestion	Possible offers downstream of the congestion
NS1 Congestion	- Reduced entries at PIR Taisnières H - Reduced entries at PIR Obergailbach - Increased consumption at CCGTs located upstream of the bottleneck (Blénod, Saint-Avold, Pont-sur-Sambre, Toul, Bouchain) - Increased exits at PIR Oltingue	- In summer: reduced entries at PITS North-East, North-West, Atlantic, South-East or TIGF. In winter: increased withdrawals at PITS North-East, North-West, Atlantic, South-East or TIGF. - Increased entries at PIR Dunkerque - Increased emissions at PITTM Dunkerque LNG, Montoir or Fos - Reduced exits at PIRs Jura and Pirineos - Reduced consumption at CCGTs located downstream of the bottleneck (Bayet,

		Combigolfe, Cycofos, DK6, Martigues, Montoir, Gennevilliers, Montereau)
NS2 Congestion	- Reduced entries at PIR Taisnières H - Reduced entries at PIR Obergailbach - Reduced entries and PIR Dunkerque - Increased exits at PIR Oltingue - In summer: increased entries at PITS North-East and North-West. In winter: reduced withdrawals at PITS North-East and North-West. - Reduced emissions at PITTM Dunkerque LNG - Increased consumption at CCGTs located upstream of the bottleneck (Blénod, DK6, Saint-Avold, Pont-sur-Sambre, Toul, Bouchain, Gennevilliers, Montereau)	- In summer: reduced entries at PITS Atlantic, South-East or Lussagnet. In winter: increased withdrawals at PITS Atlantic, South-East or Lussagnet - Increased emissions at PITTM Montoir or Fos - Reduced exits at PIR Pirineos and Jura - Reduced consumption at CCGTs located downstream of the bottleneck (Bayet, Combigolfe, Cycofos, Martigues, Montoir)
NS3 Congestion	- Reduced entries at PIR Taisnières H - Reduced entries at PIR Obergailbach - Reduced entries and PIR Dunkerque - Increased exits at PIR Oltingue and Jura - In summer: increased entries at PITS North-East, North-West and South-East. In winter: reduced withdrawals at PITS North-East, North-West and South-East. - Reduced emissions at PITTMs Dunkerque LNG or Montoir - Increased consumption at CCGTs located upstream of the bottleneck (Blénod, DK6, Saint-Avold, Pont-sur-Sambre, Toul, Bouchain, Gennevilliers, Montereau)	- In summer: reduced entries at PITS Atlantic or Lussagnet. In winter: increased withdrawals at PITS Atlantic or Lussagnet - Increased emissions at PITTM Fos - Reduced exits at PIR Pirineos - Reduced consumption at CCGTs located downstream of the bottleneck (Bayet, Combigolfe, Cycofos, Martigues, Montoir)
NS4 Congestion	- Reduced entries at PIR Taisnières H - Reduced entries at PIR Obergailbach - Reduced entries and PIR Dunkerque - Increased exits at PIR Oltingue and Jura - In summer: increased entries at PITS North-East, North-West, Atlantic and South-East. In winter: reduced withdrawals at PITS North-East, North-West, Atlantic and South-East - Reduced emissions at PITTMs Dunkerque LNG or Montoir - Increased consumption at CCGTs located upstream of the bottleneck (Blénod, DK6, Saint-Avold, Pont-sur-Sambre, Toul, Montoir, Bouchain, Gennevilliers, Montereau)	- In summer: reduced entries at PITS Lussagnet. In the winter: increased withdrawals at PITS Lussagnet - Increased emissions at PITTM Fos - Reduced exits at PIR Pirineos - Reduced consumption at CCGTs located downstream of the bottleneck (Bayet, Combigolfe, Cycofos, Martigues)

If several congestions were reached at the same time, offers would be possible on the points upstream of the furthest upstream congestion and on the points downstream of the furthest downstream congestion for a quantity equal to the maximum needs for each of the congestions reached.

Infrastructure operators and consumer participation

The table above also includes CCGTs. Subject to technical feasibility, the TSOs propose including them in calls for tender. The sites already submit their hourly schedules that serve as benchmarks to control rises or reductions in their consumption, but are not concerned by nominations.

Similarly, TSOs propose studying the possibility for shippers supplying gas to industrial sites being included in calls for tenders on locational *spreads*. Their offer would consist of reducing gas consumption at a facility situated downstream of the congestion, without amending entry nominations. Currently, these facilities submit neither hourly consumption schedules nor nominations. The implementation measures must therefore be specified within the Concertation Gaz procedure and submitted to the CRE.

Finally, one storage operator informed the Concertation Gaz of its desire to take part in calls for tenders on locational *spreads*.

Mechanism cost

The annual cost of locational *spread* varies considerably, based on:

- the number of congestion days;
- congestion volume;
- prices submitted by shippers.

The simulations below are based on frequency and volume simulations produced using the tool available to shippers on the CRE website. They assume complete coverage of the volume required to resolve simulated congestions by locational *spread*. The price used is a standard €3/MWh in summer and €10/MWh in winter. This is an approximation validated by consultation, even though it is a very rough outline.

Scenario considered	Annual estimated cost of locational *spread*
Strained "baseline" scenario (38 days of congestion per year)	€1.3 to 10.7M
Extreme scenario (110 days of congestion per year)	€16.9 to 64.6M

Price cap

The TSOs propose introducing a price cap, above which offers cannot be selected even if requirements are not covered. If the price of offers exceeds the price cap, the TSOs will have no option but to use mutualised restriction to remove congestion.

- **Public consultation response summary**
  - Use of locational *spread*

All of the players that responded to the public consultation are in favour of the use of locational *spreads* to remove residual congestion. They consider that this is the most satisfactory and least expensive solution for the community. They welcome the work carried out at the Concertation Gaz to arrive at such an outcome.

  - Operational measures

Most of the players that responded to the public consultation are in favour of the operational measures regarding calls for locational *spreads* proposed by the TSOs.

Some players want the TSOs to intervene when the liquidity of the markets is the highest, i.e. between 1 pm and 5.30 pm.

Several players are satisfied with the proposal of posting offers in €/MWh/h, because this enables small players that do not have continuous *dispatching* to post an offer without having to review it every hour of the day. Conversely, one player expresses his preference for offers in €/MWh/d to comply with the Powernext offer format.

  - Information on D-1

The public consultation responses are predominantly in favour of allowing the TSOs the possibility of triggering calls for tender on D-1, and allowing shippers to submit an offer as soon as the call for tenders is issued. Several shippers would like this call for tender on D-1 to be issued before 6 pm, to allow all players the possibility of responding during working hours.

Two players consider that on D-1, the scheduling of shippers is still approximative and that the TSOs should be limited to informing the market about the risk of congestion. A third player believes that the prices given in response to the call for tender on D-1 will probably be "off market".

- Participation of the CCGTs, of industrialists and storage operators

The vast majority of players are in favour of the participation of CCGTs in the locational *spread* mechanism. They believe that CCGTs are important and flexible consumers that can even help the system in the event of congestion.

Most players are in favour of studying the possibility for industrialists to respond to the locational *spread* mechanism. These players believe that industrialists may help to relieve the network in the event of congestion. Several players highlight that implementing such a measure requires work because industrialists do not submit hourly consumption schedules.

Opinion is divided on storage operators taking part in the locational *spread* mechanism. Some of the responses consider that storage operators should only be responsible for marketing the flexibilities of their structures at competitive prices so that shippers can obtain the highest value, including by taking part in calls for tender on locational *spreads*. Other players want storage operators to be able to make their stored gas, in particular performance gas, available.

- Price cap

Most players do not want a price cap to be applied in the context of locational *spreads*. In fact, they consider that a price cap would bias this mechanism: if no shipper is ready to resubmit an offer below the price cap, this means that they consider that the volumes of gas held downstream of the congestion have a higher value.

Some players believe that a price cap is necessary, if only to prevent data entry errors, but that it must be set at a very high level.

- **The CRE's analysis**

  - Use of locational *spread*

The CRE notes that locational *spread* is a simple, economical and effective tool for all bottlenecks and open to a large number of shippers. Therefore, it is in favour of using the locational *spread* mechanism in the context of the single marketplace.

  - Operational measures

The CRE considers that the restriction on re-nomination is vital to allow the mechanism to be effective: it ensures that gas will be delivered downstream of the congestion and not upstream.

The CRE considers that the benefit of locational *spread* primarily lies on its ease of use for all shippers. As such, issuing tenders in €/MWh/h could enable operators to post offers several hours in advance without regard to prorata temporis. Similarly, applying the mechanism during working hours, preferably between 10 am and 6 pm would help gather a maximum number of respondents. The Powernext trading platform is well-known by most of the market players and using its clearing house helps transfer energy risk free from one player to another anonymously.

The CRE is in favour of the measures proposed by the TSOs for the operation of locational *spread*.

  - Information on D-1

The CRE considers that issuing calls for tenders on D-1 and authorising shippers to submit an offer as soon as the call for tender is issued would enable shippers to anticipate the needs of TSOs and as many as possible to respond. In fact, in the event of need at the beginning of the gas day, a call for tender would be issued outside of working hours and few players would be able to respond to it. Nevertheless, as the data available to the TSOs is not accurate on D-1, the CRE wants calls for tender issued the day before for the next day to be exceptional and limited if the TSOs anticipate severe pressure on the network.

Where possible calls for tender on D-1 should be issued before 6 pm. Except in exceptional cases, it will only be possible to select the offers during the D.

  - Participation of the CCGTs of industrialists and storage operators

The CRE considers that this mechanism is only effective when a large enough number of shippers can respond to it. It is in favour of CCGTs and industrialist taking part in it via their shippers. The exact methods for these players to take part must still be worked on within the framework of the Concertation Gaz.

The CRE considers that the contribution of storage operators to the smooth running of this mechanism must primarily be through a dynamic commercial offer that provides greater flexibility to subscribed storage capacity

shippers. It is not economically justifiable to retain capacities or flexibility for the sole use of congestion, as a higher value can be secured by trading them.

- Price cap

The CRE considers it necessary to set a price cap to limit the risk, firstly, of data entry error, and secondly, of a very high price in an emerging market due to a reduced number of offers for certain auctions. This price cap must be sufficiently high so that a signal price emerges that reflects tension in the network and constitutes a real attraction for potential participants. A high price cap will be set by the TSOs, in collaboration with the CRE. If it should be reached, in the absence of market bias, it's level will need to be questioned.

The CRE asks the TSOs to pursue their work with Concertation Gaz to involve shippers in the operational implementation of locational *spread*.

4.2.1.4 Agreements with adjacent infrastructure operators

- **Operating principles**

For a similar contractual framework, splitting flows between different physical points can affect network management. This is why GRTgaz sometimes uses optimising arrangements or ("*swaps*") between operators, based on everyone making reasonable efforts. This principle could be used to remove congestion, at least partially.

If NS1-level congestion occurs, GRTgaz, could, for instance, ask Fluxys to reduce entry flows at Taisnières H and transfer equivalent entry flows to Alveringem. With the bottleneck sitting on both sides of the two PIRs, this agreement could help resolve NS1-level congestion. Using this mechanism would have no consequences on other limits as volumes delivered upstream of NS2, NS3 and NS4 would remain unchanged.

Similarly, such an agreement could be devised with Storengy when the facilities of one PITS straddle bottlenecks: PITS North-East for NS1 and PITS South-East for NS3 and NS4 congestions.

- **Implementation measures**

The possibility of making inter-operator *swaps* depends on nominated capacities at the contractual point and both operators own constraints. There is therefore no guarantee it will work in all conditions.

- **Public consultation response summary**

All players are in favour of the TSO's being able to use agreements with adjacent operators allowing them to optimise their flows. However, one player does not want this to lead to any financial contribution.

- **The CRE's analysis**

This mechanism is part of an inter-operator agreement. Without a financial contribution, it is tailored to the reasonable efforts of both parties.

The CRE considers that the agreement with Fluxys is an effective way of removing NS1 congestion, without constraining the shippers nor generating additional costs for the public. Consequently, the CRE is in favour of using it as a priority when NS1-level congestion occurs, subject to its feasibility at the given time. The CRE asks the TSOs to work with other operators, in particular storage operators, to be able to resolve other bottlenecks without affecting shippers.

4.2.1.5 Mutualised nomination restrictions in a congestion situation

- **Operating principles**

If all other mechanisms used fail to remove the congestion, the TSOs could not ensure deliveries and would be forced to introduce nomination restrictions. Firm capacities should be partially interrupted as a last resort.

- **Implementation measures**

This mechanism helps ensure that limits are not exceeded, either by restricting entries upstream of the limit, or exits downstream of it.

This mechanism would only be applied if necessary as a last resort, i.e. after other mechanisms fail. The TSOs would introduce an overall mutualised pro rata nomination restriction of subscribed capacities on entry points upstream of the limit, or on exit points downstream (superpoint network). The shippers would therefore be free to use their capacities, within their own limits, and at each point in their overall limit at all the points.

This mechanism would be used during the day, once the failure of other mechanisms to remove the congestion had been noted. As long as bids to calls for tenders help cover the stated need, mutualised restriction is not used. When calls for tenders go unanswered, or when there are not enough bids to meet needs, the TSOs stop the process and trigger a mutualised nomination restriction during the following cycle.

The TSOs presented volumes (in GWh/day) to be interrupted when addressing congestion events. These are based on the choice of interrupting capacities upstream and downstream, according to consumption in France. The aim of the TSOs is to limit the volume of capacities interrupted to remove congestion. Nevertheless, this rule must be implemented based on consumption levels. From a certain level of consumption, restricting all capacities downstream is not sufficient to resolve NS2, NS3 and NS4 congestion. It therefore appears that:

- for NS1 congestion, mutualised restriction would focus on points located upstream of the congestion;
- for NS2 congestion, mutualised restriction would focus on points located upstream of the congestion in summer and mild winters and downstream during average to harsh winters;
- for NS3 congestion, mutualised restriction would focus on points located downstream of the congestion in summers and mild winters and upstream in average to harsh winters;
- for NS4 congestion, mutualised restriction would focus on points located downstream of the congestion in summers and cold winters and upstream in harsh winters.

Consommation France (GWh/j)	Eté à hiver doux (consommation inférieure à 1750 GWh/j)	Hiver moyen à froid (consommation comprise entre 1750 et 2800 GWh/j)	Hiver très froid (consommation supérieure à 2800 GWh/j)
NS1	Amont		
NS2 et NS3	Aval	Amont	
NS4	Aval		Amont

- **Remuneration**

In the event of a mutualised restriction, the TSOs want no financial compensation to be paid to penalised shippers.

- **Public consultation response summary**

Most players are in favour of allowing TSOs to introduce mutualised restrictions in exceptional cases. However, a large number of players are asking for these restrictions to be compensated.

In addition, one player wants mutualised restrictions to occur after the security stock has been used by the TSOs. Another player contested the possibility of setting up mutualised nomination restrictions arguing that as such measures are not based on the market, they could only be triggered in the context of implementation of the Gas Emergency Plan (PUG) which is established by the Order of 28 November 2013 adopting the Emergency Gas Plan pursuant to Regulation (EU) no. 994/2010 of the European Parliament and of the Council of 20 October 2010 concerning measures to safeguard security of gas supply.

- **The CRE's analysis**

Regardless of the market mechanisms adopted, the CRE considers that it is vital to define a last resort mechanism if these mechanisms fail. Mutualised restriction appears to be the least restrictive last resort solution for shippers.

Indeed, mutualised restrictions have the advantage of leaving each shipper with capacities at several points upstream and downstream of the congestion and scope to decide which points to favour. Similarly, a shipper with capacity at a single point of the superpoint can benefit from a higher availability rate by using the over-nomination mechanism (or UIOLI), if other points in the superpoint are less demanded by the other shippers.

In principle, the CRE is not opposed to the compensation of mutualised restrictions. Nevertheless, the CRE considers that compensating the shippers concerned by the mutualised restriction could limit the chances of success of locational *spread* calls for tenders: a shipper might prefer the *ex-ante* defined compensation rate compared to the price set by the call for tenders. In addition, if the mutualised restriction should involve compensation, those shippers benefiting from it and its level would need to be defined. Therefore, the CRE considers that the TSO's proposal for mutualised restrictions is appropriate, as it concerns a last resort mechanism which should be used in exceptional cases to reabsorb congestion and that choosing not to remunerate them is also appropriate.

Furthermore, mutualised restrictions are intended to be applied to manage physical congestion and not to deal with deterioration of the gas supply status. Consequently, setting up this measure is not governed by the provisions set out in the Emergency Gas Plan.

Finally, the CRE reiterates that the TSOs' security stock must only be used for severe supply crises. It is not intended to resolve daily congestion.

4.2.2 Mechanisms not retained

4.2.2.1 Summary of the mechanisms not retained

Several mechanisms, studied within the framework of the Concertation Gaz, have not been retained by the TSOs in their proposal. These include the following mechanisms:

- *swap* storage, which consists of injecting and withdrawing gas from storage facilities located either side of the bottleneck. The TSOs would have entered into a contract with storage operators on an annual amount made up of ultra-rapid withdrawal facilities. The TSOs would have purchased or leased the gas;
- Nomination buy-back, which helps reach a limit by employing the shippers' arbitration abilities to alter their supply system on a given day. Nomination buy-back by the TSOs would have concerned all entry points located upstream of a limit, or all exit points downstream of a limit;
- converting firm capacities into conditional or "point-to-point" capacities. The TSO's capacity offer comprises firm and interruptible capacities based on the transmission network conditions of use. Two new types of capacity could have been introduced, in the form of conditional capacities, which can be interrupted in the event of congestion, and "point-to-point" capacities, which can only be used for certain supply routes.

4.2.2.2 Public consultation response summary

- *Swap* storage

The vast majority of players that responded to the public consultation consider this mechanism to be too expensive to be retained. They reiterate that the *swap* storage service could be provided by shippers providing that the storage operators' offer is flexible and suitable.

Only two shippers would like *swap* storage to be retained. One considers that its certain and transparent character for shippers would make this product the best solution for removing congestion. Another shipper believes that locational *spreads* will not be enough to resolve congestion and that *swap* storage would have been a good additional mechanism.

- Nomination buy-back

Most players said that they were not in favour of the nomination buy-back mechanism. In fact, they consider this mechanism to be similar to locational *spread* but would be less effective.

Only one player would have wanted this mechanism to be retained, in particular so that the TSOs can sell unsold firm capacities after buying back equivalent capacities from shippers that hold them.

- "Point-to-point" capacities

Most respondents believe that the point-to-point capacity mechanism would be complicated and ineffective over most limits and that it must not be retained.

However, one player would have wanted it to be put in place, mainly because it allows action to be taken on the NS1 limit.

4.2.2.3 The CRE's analysis

- *Swap* storage:

The CRE reiterates that although *swap* storage is effective for NS2, NS3 and NS4 limits, the sizes proposed by the TSOs (50 GWh or 35 GWh) would not cover all congestion situations as these thresholds are significantly exceeded by some congestion situations (up to 180 GWh according to the TSO model). Consequently, if it were chosen, *swap* storage alone would not be enough and should be supplemented by a short-term mechanism.

Furthermore, *swap* storage must be registered in advance, which on the one hand, poses a problem of cost and size, and on the other hand, the question of its size. By definition, swap storage would be flawed: over-sized, it would be an unnecessary public cost and if it was under-sized, it would necessarily lead to the use of other short-term mechanisms.

Swap storage, as proposed by the storage operators also represents a 'de-optimisation' based on storage volumes. The anticipated mechanism consists of reserving a single-use product when congestion occurs, depriving these capacities of their value for other uses (balancing, securing supply).

For these reasons, the CRE is not in favour of using *swap* storage, such as envisaged by the TSOs and storage operators.

- Nomination buy-back:

The CRE considers that the effectiveness of this particular mechanism is unclear. Nomination buy-back only deals with one side of the limit. Furthermore, this mechanism bears the risk of being ineffective in reabsorbing congestion if the shipper concerned rebalances at the PEG and if the counterparty delivers gas from the same entry point. These two pitfalls can be avoided by *locational spread*, which uses a rationale similar to that of nomination buy-back, consisting of paying an operator to alter their delivery.

Consequently, nomination buy-back does not appear to be effective and the CRE considers that using it must be ruled out in favour of locational *spread*.

- "Point-to-point" capacities

It is operationally possible to convert firm capacities into conditional capacities, on points upstream, on injection/withdrawal storage capacities and export capacities: PIR Oltingue and Pirineos. To be effective, this mechanism would need to convert a large capacity volume since its size is not dependent on use on a given day (nominations), but theoretically, to contain *a priori* flows to resolve hypothetical congestion situations. As a result, all existing unsubscribed capacities and part of existing subscribed capacities must be converted to conditional capacities. The further away from entry points, the greater the capacity volume to be converted to ensure the mechanism's effectiveness.

The cost of the mechanism and the cost for network users would therefore be disproportionate if this mechanism were to be selected for congestions far from network entry points (NS2, NS3 and NS4). Consequently, converting firm capacities into conditional capacities could only be reasonably applied to deal with NS1 congestion situations.

In principle, the CRE is not in favour of creating a new type of capacity in addition to firm and interruptible capacities. A new type of capacity, consolidated by new criteria, would lead to increased complexity for network users. In addition, the CRE is not in favour of constraining *a priori* long-term use of the network. The single market area model enables shippers to supply gas from all destinations into the area, without price spreads.

Consequently, the CRE considers that converting firm capacities into conditional or point-to-point capacities must be ruled out.

4.2.3 Summary

The CRE considers that the measures available to the TSOs to reabsorb congestion at no extra cost to the community of shippers and without reducing firm capacity supply, must be applied as a priority. Also, if congestion occurs that could be exacerbated by a rise in flows to a given point, interruptible capacities must be interrupted. Available firm capacities must therefore not be sold. Nevertheless, if the congestion is localised at NS1 level, and if conditions allow, the CRE is in favour of using the inter-operator mechanism, with Fluxys, also without public cost.

If required, once these measures have been unrolled for all congestion fronts, the CRE is in favour of TSOs using locational *spread*. The CRE considers that locational *spread* helps remove all congestion in theory, so long as the market players respond. From this standpoint, implementing a single market mechanism helps avoid dispersing liquidity.

Finally, if the TSOs fail to meet their needs by locational *spread*, as a last resort, they will introduce mutualised restriction.

<table>
<tr><th></th><th>NS1</th><th>NS2</th><th>NS3</th><th>NS4</th></tr>
<tr><td>In the event of daily constraints</td><td>1. Implementation, if possible, of inter-operator mechanisms, particularly with Fluxys
2. Interruption of interruptible capacities
3. Non-trading of available firm capacities
4. Locational spread</td><td colspan="3">1. Interruption of interruptible capacities
2. Non-trading of available firm capacities
3. Locational spread</td></tr>
<tr><td>In the event of the mechanisms failing</td><td colspan="4">Mutualised restriction</td></tr>
</table>

4.3 Rules for triggering mechanisms

4.3.1 TSOs' proposal

4.3.1.1 Continuous alert system

- Forecast D+5

The TSOs propose publishing five-day forecasts to inform the market of the risks of congestion occurring. This forecast would be updated daily, using weather data, consumption forecasts and LNG terminal emission programmes.

- Short-term alert

The TSOs propose that as of D-1 monitoring should be carried out at each nomination cycle to assess the situation based, in particular, on consumption forecasts and available inter-operator tools.

The congestion indicator takes account of the latest nomination cycle, TSOs' consumption forecasts and the state of the network (availability of inter-operator swaps, work in progress, which, without being exhaustive, determine the red alert level).

- If the situation presents no imminent risk of congestion occurring, it is classified as green.
- If the TSOs expect an imminent likelihood of congestion, it is classified as orange.
- If congestion is proven, a red alert is given.
- A purple alert is triggered if the TSOs cannot ensure continuity of supply due to the identified congestion.

The table below would therefore be updated for each superpoint for each nomination cycle to reflect the TSOs best consumption forecasts, and would be published on the TSO's public websites.

Date	J+2 : 17/10/17	J+3 : 18/10/17	J+4: 19/10/17	J+5 : 20/10/17
NS1				
NS2				
NS3				
NS4				

4.3.1.2 Level-specific actions for D-1 alert

The TSOs propose triggering the following actions based on alert levels:

- On the day before (D-1) at 2 pm, if the alert level is red, interruptible capacities to the points affected by the congestion are interrupted.
- On the day before (D-1) after 2 pm, if there is an orange alert, the TSOs will issue a call for tenders for locational *spread*. The shippers submit their offers but the TSOs do not select them yet, while they wait for the congestion to improve. If the alert is red, interruptible capacities are interrupted and unsubscribed capacities for the next day are not traded only for the constraint points on the limit treatment side (i.e. on the mutualised restriction application side described in 4.2.1.5): downstream entries or upstream exits.

4.3.1.3 Level-specific actions for D-Day alert

The TSOs propose triggering the following actions based on alert levels:

- On the same day (D), from 6 am, if there is an orange alert, the TSOs will issue a call for tenders for locational *spread*. If there is a red alert, interruptible capacities are interrupted and unsubscribed capacities are not traded only for the constraint, and the TSOs ask the shippers to finalise their offers then select offers previously submitted by the shippers.

- In the event of a purple alert, in addition to the measures activated at the orange alert, the TSOs proceed with a mutualised restriction of nominations at the relevant superpoints. This level of alert should only be reached if decongestion mechanisms fail.

	D-1		D
	2 pm	After 2 pm	
Green	*No action*		
Orange	*No action*	Locational *spread* call for tenders issued	Locational *spread* call for tenders issued
Red	Interruptible interruption	- Interruptible interruption - Non-trading of unsubscribed capacities - Locational *spread* call for tenders issued	- Interruptible interruption - Non-trading of unsubscribed capacities - Locational *spread* call for tenders issued - Request for locational *spread* offers to be updated then selection of locational *spread* offers
Purple	*N/A*		Mutualised restriction

4.3.2 Public consultation responses

Most of the players that responded to the public consultation are in favour of the rules for triggering mechanisms proposed by the TSOs. For some of them, these rules are clearly defined and must ensure the correct level of information for shippers to avoid any deadweight effect. Other players made comments, on the one hand, on the D+5 forecast time, which, in their opinion, could be extended to D+8, and on the other hand, on the notice regarding interruption of interruptible capacities, which should be longer.

4.3.3 The CRE's analysis

The CRE considers that the rules for triggering mechanisms proposed by TSOs are by and large satisfactory, but must be specified at certain points at the Concertation Gaz. The Concertation is also the place where shippers share their observations, so that, where possible, they are taken into account by the TSOs. As such, the CRE asks the TSOs to work with Concertation Gaz on the rules for accurate triggering of congestion removal mechanisms (notice on interruption and non-trading of capacities and accurate sequencing of the initiation of actions).

4.4 Information provided to shippers to assess congestion risks

4.4.1 TSOs' proposal

4.4.1.1 One year in advance: maintenance schedules

The GRTgaz works schedule is published in August for the previous year and updated in November of the year N-1 for year N. TIGF's works schedule is published in November of the year N-1 for year N. GRTgaz publishes baseline works schedules in February for the year N and for TIGF in March. These can be amended up to two months before the date for maintenance work. Each month M-2, daily capacity reduction rates are published for the month M. These rates are then reviewed up to D-5, in the form of a spread. The final restriction rate is made available on D-1 at 3 pm.

These publications will remain unchanged. The schedules feature the capacity volume that will be restricted at the corresponding points and superpoints.

Work where the impact on capacity availability is less than 30 GWh/d will feature in these schedules, even though they will not result in the implementation of mutualised restrictions *a priori*.

4.4.1.2 Publication of the "*Winter Outlook*" in preparation for winter

Until 2016, operators published a forecast of winter network operating conditions, in October. From 2017 and for subsequent years, the TSOs have brought this forward to May to give the market greater visibility during the storage filling campaign. The "*Winter Outlook*" was published on 31 May 2017 and is available on the GRTgaz[21] and

[21] Winter Outlook 2017

TIGF[22] websites. This publication is then updated in October to refine projections for storage filling rates and weather forecasts.

4.4.2 Public consultation responses

All of the players that responded to the public consultation are in favour of the information system proposed by the TSOs. However, they want the TSOs to continue their efforts to improve the accuracy of the information published.

Some players want the TSOs to publish congestion forecasts and their related unavailabilities, in addition to the work schedule and the *Winter Outlook*. They also reiterate that the *Winter Outlook* must not be the result of unilateral analyses by the TSOs. Market players must be able to take part in its preparation.

Finally, several players want the maintenance schedules to be presented and published jointly by both TSOs.

4.4.3 The CRE's analysis

The CRE is in favour of the information system proposed by the TSOs. It considers that it is an essential prerequisite for congestion management.

Concerning the *Winter Outlook,* the CRE asks the TSOs to study the possibility of including market players during its preparation.

Furthermore, the CRE wants the TSOs to coordinate with one another to prepare and present their maintenance schedules. Indeed, in the single area, the maintenance work of each TSO will have repercussions on the offer of adjacent operators.

4.5 Monitoring storage filling levels downstream of congestion and eventual means of action

4.5.1 TSOs' proposal

4.5.1.1 The purpose of a monitoring process for storage filling levels downstream of bottlenecks

Various forms of flexibility can be employed to ensure continuity of supply downstream of North-South congestion. These include storage, LNG terminals and imports from Spain. The locational *spread* mechanism will enable TSOs to employ these resources if necessary the day before or on the same day.

Nevertheless, should there be simultaneous tension in both France and Spain, it may not be possible to reduce exports to Spain. Similarly, rising output from LNG terminals can only be harnessed in the short-term if LNG is available in storage tanks. Consequently, the only form of flexibility that TSOs could count on is storage, within the limit of the flow allowed by the filling of storage facilities downstream of the congestion.

In these circumstances, the TSOs propose monitoring storage levels daily downstream of each bottleneck, to ensure that locational *spread* offers are properly available in the short-term.

This monitoring system would pre-empt insufficient filling levels in storage facilities to guarantee flow rates needed to address congestion that may occur in the short-term. The filling level monitored would therefore match the volume to cover the daily flow rate required to remove the congestion, but not that required to ensure continuity of supply, which is the suppliers' responsibility.

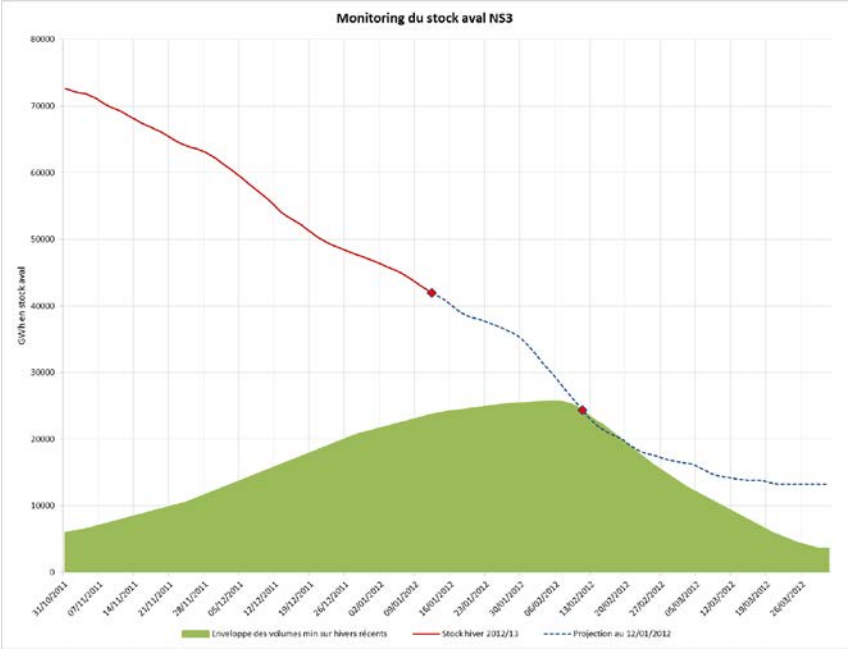
4.5.1.2 Downstream storage filling monitoring principles

The TSOs seek to base this monitoring process on the principles described below, which will be specified in the Concertation Gaz working groups.

- At the start of winter, the TSOs determine the minimum flow rate for each day of the winter season to be withdrawn from storage facilities to deliver gas downstream of congestions. This assumes the absence of all LNG at Fos and Montoir, and sustained exports to Spain. Based on the flow rate, the TSOs would calculate the minimum storage level required. Where gas volumes in stock are greater than this minimum volume, the TSOs know that if congestion occurs, they have offers to deal with an eventual locational *spread*. This minimum volume is illustrated by the green curve in the graph below.
- Each day during winter, according to the gas effectively in storage on a specific date (see red line below), the TSOs propose calculating a projection for stored gas volumes based on an 'extreme' scenario for the rest of the winter downstream of each congestion event. This projection is illustrated by the blue dotted line and includes:

[22] Winter Outlook 2017 on the TIGF website

- anticipated consumption in the short-term based on weather, LNG terminal emission schedules and LNG stocks present;
- an 'extreme' long-term scenario (very cold winter, high CCGT consumption, shortage of LNG and sustained exports to Spain).



4.5.1.3 Actions implemented to ensure downstream storage filling levels to remove congestion

If, a month ahead, projected gas volumes in stock are less than the minimum volumes calculated by the TSOs, the TSOs are considering two solutions, to be enforced simultaneously:

- if necessary, use locational *spreads* to limit the withdrawal of stored gas downstream of the bottleneck;
- temporarily interrupt the marketing of interruptible capacities downstream of congestions. This situation would be illustrated by the green line and the dotted blue line intersecting more than one month ahead.

These measures would be maintained as long as the volume projections of stored gas, more than one month ahead, are less than the minimum volumes of gas in storage, as calculated by the TSOs at the start of winter.

Finally, if the filling level projection predicts in one month that the filling level will not be enough to cover the required flow rate to be withdrawn from storage facilities, the TSOs could trigger a call for tenders for a *flow commitment* which would ensure that gas arrives downstream of congestions (LNG at Fos or imports from Spain to France and possibly fewer France to Spain exports). This situation would be illustrated by the green line and the blue dotted line intersecting less than one-month ahead.

4.5.2 Public consultation responses

The vast majority of players that responded to the public consultation are in favour of monitoring the filling level of storage facilities downstream of bottlenecks during winter. They consider that such a mechanism is important for anticipating strained situations over the medium term. Nevertheless, they request that this subject be studied in detail at the Concertation Gaz to define the flow scenario on which the filling forecasts will be based. One player considers that this monitoring must not be restricted to winter and be extended to summer.

In addition, one player is not in favour of this monitoring. He considers that it involves triggering expensive mechanisms based on fairly unlikely scenarios.

Most players are in favour of actions to be implemented to ensure downstream storage filling levels to remove congestion, but consider that they must be investigated further with Concertation Gaz. According to some players, the time scales for triggering these actions must be studied carefully to make sure that they are only triggered if essential. In addition, one player considers that the *flow commitment* should be established before using locational spread.

4.5.3 The CRE's analysis

The CRE considers that the scheme proposed by the TSOs anticipates critical medium-term congestion events that threaten continuity of supply. Although this situation is highly unlikely, it must be planned for and this is why the CRE is in favour of a monitoring system being introduced.

It agrees with the analysis of the TSOs with regard to the expensive and ineffective character of implementing measures before the start of winter. But it considers that the monitoring must trigger appropriate measures when there are risks to continuity of supply, related to the size of the network.

Furthermore, the CRE considers that monitoring seeks solely to ensure continuity of firm transmission offers. Therefore, the CRE concludes that it is not possible to use market mechanisms to ensure the interruptible offer.

Consequently, in the event of threat to continuity of supply in the medium-term, firstly, it should:

- temporarily interrupt the marketing of interruptible capacities downstream of congestion;
- if necessary, use locational *spreads* to limit the withdrawal of stored gas downstream of the bottleneck.

Secondly, market mechanisms must be planned if the situation remains critical. For example, using a *flow commitment* could help to resolve this type of situation one month ahead.

Given the potential costs required for starting a *flow commitment*, the CRE considers that establishing it before using locational *spread* is not appropriate. Launching a call for tenders for contracting a *flow commitment* is only possible if the locational *spread* mechanism, which is less expensive, fails to maintain sufficient downstream storage filling levels.

The CRE considers that the system for monitoring storage filling levels downstream of congestion and eventual means of action must be worked on with Concertation Gaz and described in detail to define their exact operation, in particular regarding the monitoring indicators, the assumptions under consideration, the resources to be implemented and the associated deadlines.

4.5.4 Flow commitment principles

- **Operating principles**

Flow commitment aims to complement the short-term mechanisms, when these are not operating, i.e. when downstream storage facilities storage levels are insufficient.

Flow commitment is a medium-term mechanism that consists of a contract between the TSOs and one or several shippers who commit to delivering, or possibly to not removing, an identified volume of gas to a given location in the network. Flows are guaranteed during a pre-determined period.

- **Implementation measures**

In contrast to locational *spread*, *flow commitment* is a medium-term mechanism. It is set out contractually based on a call for tenders with a long-notice basis (approximately one month) and for a pre-determined period (e.g. also one month) at the superpoints located downstream of the congestion (excluding storage withdrawal). Indeed, the gas stored in downstream storage facilities can be used by short-term mechanisms (locational spread and mutualised restrictions).

The gas delivered using this mechanism would remain the property of the shipper, which would only be paid for delivering it to a given point within a given deadline. It would therefore remain within the shipper's balancing perimeter, to be used as they want (to be consumed in the area, injected into storage facilities other than those located downstream of the congestion, exported to a neighbouring country, or resold to a PEG).

- **Public consultation responses**

Most players said they were in favour of this *flow commitment* mechanism being studied in the event of threats on continuity of supply over the medium term. They consider that such a mechanism would be effective for delivering gas downstream of congestions, in particular when storage facilities in the South of France are insufficiently filled. Nevertheless, several shippers warn about the potentially high cost of such a mechanism and reiterate that its methods must be worked on in consultation with the market.

Only two players are opposed to this mechanism being retained. They consider that such a mechanism would be very expensive for shippers and its usefulness is uncertain.

- **The CRE's analysis**

The advantage of *flow commitment* is that it provides a pro-active guarantee to deliver gas in an area at a pre-agreed price. Planning ahead in this way could help target this mechanism on LNG emissions at Fos, or on flows to PIR Pirineos. Short-term mechanisms requested on the same day or the day before for the following day, only use immediately available flexibility from the shippers. By contrast, flow commitment is compatible with deadlines specific to the LNG supply chain.

As specified, based on filling records of storage facilities in the South of France located downstream of all congestion, the TSOs consider there to be enough gas to meet *locational spread* requests, according to the baseline scenario. Nevertheless, on the assumption of a particularly low level of filling storage facilities downstream of the congestion, a call for *flow commitment* could, if required, ensure continuity of supply over the medium term.

The CRE asks the TSOs to work with Concertation Gaz on the exact methods that would apply to a possible *flow commitment*.

5. FINANCIAL COVERAGE FOR DECONGESTION MECHANISMS

5.1 TSOs proposals: creation of a rapid recovery neutrality account

5.1.1 Costs incurred by congestion management

The operators propose that costs incurred from congestion management are recorded in a recovery account, a congestion neutrality account. Shippers would be invoiced by this account on a M+2 monthly basis, using a daily distribution key dependent on the quantities delivered in France and transited to interconnectors.

The TSOs propose that this distribution key be based on the use of the main network. Costs incurred for each gas day would be split on a pro rata basis from the net exit flows from the main network to PIRs and the regional network.

GRTgaz also proposes an alternative option in which exit flows to PITS would be included calculating the distribution key for short-term mechanisms.

5.1.2 Costs incurred by congestion management on 'minor work' days

GRTgaz wants congestion management costs on works maintenance days to be covered in the same way as those when no work is undertaken. By contrast, TIGF considers that the costs must be isolated and treated separately.

5.2 An alternative: covering costs in the ATRT6 tariff

5.2.1 Operating principle

The ATRT6 tariff stipulates 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".*

Costs borne by the TSOs could subsequently be included in the tariff, in the form of an annual trajectory. This trajectory would be defined in a deliberation on revising tariffs on 1 April 2018, by including an assessment of the cost of mechanisms and estimations of how frequently they occur. Market players would be asked for their opinion on setting the trajectory as part of the public consultation exercise to be launched in autumn 2017.

At first, discrepancies in the trajectory would be fully incorporated into the Income and Expenditure Regulation Account (CRCP), to spread the cost should there be a strong variation in costs from one year to the next. This account is cleared annually of the amount of discrepancies spread over four years.

5.2.2 Public consultation responses

Most shippers are in favour of the alternative proposed by the CRE, i.e. coverage of the congestion costs incurred by the TSO's by the transmission tariff. Some shippers reiterate that it is not possible to distinguish the players that are responsible for congestion who should bear the costs and that it is therefore logical that these costs are shared between all market players in the transmission tariff.

Several shippers indicated that the creation of a monthly clearing account dedicated to congestion would complicate the TSOs' offer and would introduce a lack of visibility on transmission bills.

Furthermore, they reiterate that congestion management costs are replacing the costs of investment by TSOs, and that they must therefore be covered by the transmission tariff.

Nevertheless, two shippers indicated that they prefer the solution proposed by GRTgaz and TIGF.

Finally, the TSOs maintain their request of creating a monthly clearing account. They believe that the unpredictability of congestion costs justifies monthly clearing and limits the risk of generating significant price hikes via the CRCP. In addition, they reiterate that a monthly clearing account would prevent them from being exposed to cash flow risks.

5.2.3 The CRE's analysis

The CRE considers that the use of a neutrality account presents the advantage of rapidly covering TSO expenditure on congestion events. It nevertheless considers that a neutrality account, with monthly invoicing, adds to the complexity for shippers.

Covering costs in the ATRT tariff is justified by their nature, i.e. mechanisms implemented to cut investment in developing new facilities. These averted costs would have been covered by the tariff and, as such, it seems appropriate to cover them in the same way.

Furthermore, at present, shippers have had no contractual obligation to help remove congestions and do not always have the means required to do this. There is, therefore, no reason to charge individually incurred costs to them, as allowed for in the balancing neutrality account.

Finally, the advantage of this solution is its simplicity. It enables the TSOs to recover costs incurred by congestion management, while protecting shippers from wide variations, with amounts being spread over four years. The CRE is therefore in favour of this system. As such, the transmission tariff will provide a congestion cost trajectory, and the discrepancies between the actual trajectory and the forecast trajectory will be covered by the CRCP mechanism.

6. SPECIFIC MEASURES FOR WINTER 2017-2018

The current transmission network configuration cannot supply the South-East of France by Spain or the TIGF zone. In winter, consumption in the South-East is such that the Rhône artery cannot cover total consumption. Therefore, flows from Fos and storage facilities in the South-East are required. Without flows from Fos or storage facilities, the South-East zone can experience congestion: GRTgaz cannot supply all the gas required, even if there is enough in the TRS zone.

6.1 A South-East congestion occurred in winter 2016-2017

Winter 2016-2017 was marked by congestion in the South-East, caused by low LNG supplies in the South of France, coupled with high consumption in this zone.

To make up for this shortfall of LNG, heavy use was made of storage facilities in the South-East, all the more so due to very low temperatures from late December. The Salin storage facilities were subsequently hit by lower filling levels than had been recorded in previous years.

Although the LNG shortage led to a rise in TRS prices in the South of France, in January 2017, in the end LNG supplies were more substantial in February and in March. During a certain number of days in January, GRTgaz warned shippers of congestion in the South-East, threatening supplies to customers locally.

To resolve this congestion, GRTgaz used Operational Instruction Notices six times (for a total of 188 GWh). Back-up storage was used during 11 days (for a total of 210 GWh).

6.2 Assessing the congestion risk for winter 2017-2018

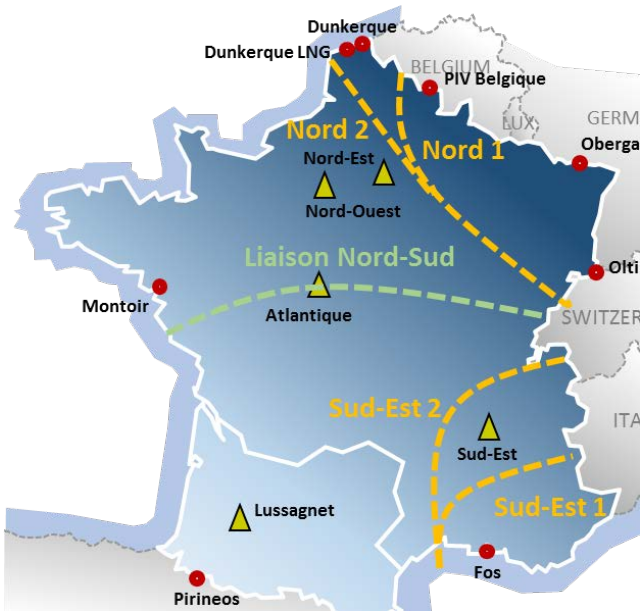
Building facilities to help create a single marketplace have not been completed and the risk of South-East congestion for winter 2017-2018 remains.

Furthermore, the TSOs think there might be a risk of congestion in the North zone, in the form of a local deficit which appears in the event of:

- large supplies to the North (PIR and PITTM Dunkerque, Obergailbach, Taisnières H);
- low withdrawals at PITS North-West and North-Atlantic;
- low emissions from the Montoir terminal;
- heavy demands on the North-South link.

This congestion leads to transits being saturated in the North zone, in a North to South direction. Two bottlenecks can appear, upstream and downstream of the Paris region.

The bottlenecks that could materialise in winter 2017-2018 are featured on the map below:



6.3 Solutions to address congestion risks

6.3.1 Improved information to market players

The TSOs want to improve information given to the market players on the state of tension in the network, to enable them to take appropriate measures.

GRTgaz and TIGF have jointly published their observatory of market conditions for the winter (*Winter Outlook*) in May 2017, instead of November, as is usual. This first publication will be updated in November.

If tensions appear in the network, the TSOs will communicate this via their public websites (Smart GRTgaz and tigf.fr), as well as by press releases sent to their shipping clients (ShipOnline).

6.3.2 TSOs have levers to avoid congestion situations

Should congestion occur in winter 2017-2018, GRTgaz would proceed in a similar way to the planned procedure envisaged for the single market area, by interrupting interruptible capacities where reduced flows are beneficial. In the event of congestion in the South-East, the interruptible proportion of capacities to the North-South link would be entirely or partially interrupted if it helps reduce congestion.

In addition, the TSOs could alter the flow at Cruzy. Derogations to the allocation rule for flows to the interface between the GRTgaz and TIGF networks will be continued as necessary. Some facilities, built to prepare the single market area, could be used to create backflows to Cruzy. These flows could reach a maximum of 35 GWh/day. Performance trials on facilities will be conducted. This offer made by TIGF is only available depending on weather conditions, at an estimated cost of €20k/day.

6.3.3 Use of locational *spread* for winter 2017-2018

If congestion occurs in winter 2017-2018, the TSOs propose buying locational *spread*. This mechanism, described in paragraph 4.2.1.3, consists of simultaneously buying and selling a locational product on both sides of the bottleneck. This product subsequently guarantees that the surplus gas upstream of the bottleneck is taken out and, at the same time, the same quantity of gas is transported downstream of the bottleneck.

The TSOs propose that operational arrangements for triggering and selecting the offers are identical to those to create the single market area, as described in paragraph 4.2.1.3. The constraints and penalties applicable to the candidates will be the same as those proposed below. The terms and conditions for calls for tenders and renomination obligations will be identical to those of locational products for balancing. The identified points nevertheless differ from those foreseen, as of 1 November 2018. In winter 2017-2018, the TSOs propose that calls for tenders on locational *spreads* focus on aspects featured in the table below:

Congestion	Variant	Downstream (= purchase by GRTgaz)	Upstream (= sale by GRTgaz)
North Congestion	North 1	PIR Dunkerque + PITTM Dunkerque + PITTM Montoir + PITS North-East* + PITS North-West + PITS North-Atlantic (+ North-South link)	PIV Virtualys+ PIR Obergaibach + PIR Oltingue + PITS North-East*
	North 2	PITTM Montoir + PITS North-East* + PITS North-West + PITS North-Atlantic (+ North-South link)	PIR Dunkerque + PITTM Dunkerque + PIV Virtualys + PIR Obergaibach + PIR Oltingue + PITS North-East*
South-East Congestion	South-East 1	PTTM Fos + PITS South-East**	PITS South-East** + PIR Jura + PITS South-Atlantic + PITS Lussagnet + PIR Pirineos (+ North-South link)
	South-East 2	PITTM Fos + PITS South-East + PIR Jura	South-Atlantic + Lussagnet + Pirineos (+ North-South link)

** The PITS North-East, straddling North 1 & 2 congestions (upstream of Cerville and downstream of Germigny) could be positioned upstream or downstream of North congestions according to operational flexibility at each available storage facility on that day and agreed with Storengy.*

*** The PITS South-East, straddling South-East 1 congestion (Etrez/Tersanne upstream and Manosque downstream) could be positioned upstream or downstream of the South-East 1 congestion according to operational flexibility at each available storage facility on that day and agreed with Storengy.*

In the event of South-East congestion, calls for tenders will only focus on two points downstream of the congestion, i.e. PITS South-East and PITTM Fos.

Consequently, to maximise supplying needs, the TSOs propose that 2 to 3 trading windows be used to issue requests to the market, within tradeable hours and out of TSOs trading windows, where possible, according to their balancing needs.

Distinguishing trading concerning the locational *spreads* of current balancing windows (10.25 am, 2.25 pm, 5.25 pm and 11.25 pm) will help sequence TSO activity on the markets and subsequently limits the operational complexity of the initial locational *spreads*, for both TSOs and shippers.

6.3.4 Public consultation responses

All of the players that responded to the public consultation are in favour of giving the TSOs the option of buying and selling locational *spread* in the event of congestion in winter 2017-2018. They consider this mechanism to be preferable to the Operational Instruction Notices and effective for removing any congestion.

6.3.5 The CRE's analysis

The CRE is in favour of the early implementation of the *locational spread* mechanism. This mechanism helps increase flows to the PITS South-East and Fos, based on volunteering and paying the operators for the service.

6.4 Costs coverage

The TSOs propose that costs incurred by using locational *spread* are reduced by a neutrality account identical to that proposed in paragraph 5.1.

For the sake of simplicity and consistency, the CRE wants the cost coverage ratio to be the same for winter 2017-2018 and for subsequent decongestion to create a single marketplace, i.e. costs covered within the framework of the ATRT. The inclusion of these costs will be decided when updating the ATRT6 tariff on 1 April 2018.

6.5 Changes to balancing rules for winter 2017-2018

The low level of storage subscriptions could result in significant and recurring imbalances for some shippers. Consequently, the CRE considers it necessary to give the TSOs more scope to cover their residual balancing needs, with either notional or locational products. The costs incurred should be included in the imbalance settlement price so that the signal price properly reflects tensions in the network.

6.5.1 TSO market intervention arrangements for balancing

Currently, GRTgaz has 4 trading windows (10.25 am, 15.25 pm, 17.25 pm, 23.25 pm) and scope to trade outside these times to optimise the outcomes of its trading interventions. GRTgaz's market trading is done by an automated system managed by the stock market operator, Powernext.

TIGF uses the same automated system to trade exclusively in the 5.25 pm window every day, including non-working days.

Although the TSOs can both purchase or sell imbalance days simultaneously, the way imbalances are allocated between the two balancing zones makes it impossible for a TSO to sell while the other buys. Consequently, the CRE considers that the TSO trading windows should remain unchanged.

Nevertheless, so as to reflect tensions in the network, the CRE wants to slightly amend the automated buying and selling parameters, which are currently restricted to avoid excessively high purchasing and low selling prices. Although a limit should be maintained, the CRE wants this to be more flexible to enable TSOs to meet their needs in critical imbalance situations. Sufficient liquidity and improved trading methods now mean that price constraints can be relaxed without fear of manipulation or errors.

6.5.2 Imbalance settlement prices

6.5.2.1 Changes considered

In its deliberation of 10th September 2015[23], the CRE authorised GRTgaz to use locational products to balance its network should notional products fail to meet their needs. Since then, the TSOs have used these products on 7 occasions, during winters 2015-2016 and 2016-2017, and in September 2017. 16 suppliers are authorised to take part in calls for tenders and several have in fact submitted bids for the aforementioned tenders. The resulting purchase prices from these calls for tenders have been on average less than 10% higher than market prices on the day. The CRE also offered TIGF the option of using locational products.

The CRE proposed extending this trial and including trade prices in imbalance settlement prices.

6.5.2.2 Public consultation responses

Most players are in favour of extending the trial concerning the locational products and including locational product buying and selling prices in the imbalance settlement price.

Only one player considers that it is premature to include locational product buying and selling prices in the imbalance settlement price, because not much feedback has been provided on the trade prices. Furthermore, several players indicated that locational products need to be clearly distinguished from the locational *spread* mechanism.

6.5.2.3 The CRE's analysis

The CRE considers that feedback on locational products is positive. In fact, several shippers have already submitted offers at prices consistent with market prices and this has helped to resolve imbalances. Furthermore, using locational products will be even more important if tensions on balancing appear during next winter.

The CRE considers that the locational products should be extended for balancing needs.

Given that the TSOs could request locational products, the CRE considers that trade prices must be included in imbalance settlement prices on the days when the TSOs buy and sell locational products for balancing needs. This inclusion will foster the emergence of a clear signal price via the imbalance settlement price on days when the network is under significant strain. In addition, to harmonise penalty conditions between locational products and locational *spreads*, the penalties that apply to locational products could reach up to 125% of the price of the transaction.

The CRE reiterates that the locational *spread* is a congestion treatment mechanism. Therefore, the trade prices regarding this mechanism will not be included in imbalance settlement prices.

6.6 Removal of the gas circulation service

6.6.1 GRTgaz's proposal

GRTgaz proposes not to resume the gas circulation system, provided for in the CRE deliberation of 25 September 2014[24], for next winter.

This system enables GRTgaz to spread the availability of the North-South interruptible capacity. Consequently, GRTgaz's stored gas in LNG tanks at the Fos terminal is withdrawn to improve availability over periods when there is low availability in the North-South link. During high availability periods in the North-South link, availability in the link is reduced to renew liquefied natural gas (LNG) stocks from storage facilities upstream of the congestion. Physical LNG stocks in tanks are replenished by limiting emissions from the Fos terminals.

GRTgaz considers that the purpose of this system is inconsistent with the desired effect on North-South congestion. It helps increase shipments from the North to the South, but when South-East congestion occurs, withdrawals from storage facilities in the South and emissions from the Fos terminals need to be increased.

Furthermore, the effectiveness of this mechanism is governed by availability in the North-South link at the beginning of winter. During the winters of 2015-2016 and 2016-2017, the North-South link was saturated and GRTgaz could not dispatch gas to the South at the beginning of this period. Consequently, the gas circulation service could not operate for two winters and doubts remain about its effectiveness for next winter.

6.6.2 Public consultation responses

Although some players believe that this mechanism favours the availability of capacities with the North-South link, and therefore, reduces the *spread* between the PEG North and the TRS, most players agree with GRTgaz's analysis and want this service to be removed.

[23] Deliberation by the CRE of 10 September 2015 on developments in balancing rules of gas transmission networks on 1 October 2015
[24] Deliberation by the CRE of 25 September 2014 on the decision relating to the change to the ATRT5 tariff concerning the transitional measures before the creation of a single gas exchange point by 2018.

6.6.3 The CRE's analysis

The CRE considers that the gas circulation system has failed to achieve its aim of increasing the capacities available in the North-South link. Furthermore, the CRE agrees with the GRTgaz's analysis, which considers that in the event of South-East congestion occurring, interruptible capacity in the North-South link should be interrupted to encourage shippers to dispatch gas to the South using the PITS and the PITTM at Fos.

This service will therefore be removed as of winter 2017-2018.

7. THE CRE'S DECISION

The CRE defines the implementation measures for the single gas market area in France and the following measures relating to the specific case of winter 2017-2018, based on the TSO's proposal:

7.1 Decision on general operating of the single area

The *Trading Region France* (TRF) will operate a single entry/exit zone, divided into two balancing zones (TIGF and GRTgaz). A virtual gas exchange point, the PEG, shall condense the purchase/sale of gas for the entire TRF.

GRTgaz will continue to market capacities on the North-South link in order to allow shippers to access the capacity until the merger is completed. During the merger, the North-South and South-North capacities will disappear. Consequently, capacity holders, whatever their maturity, will therefore no longer be invoiced as of that date. Shippers will no longer nominate for the North-South link. The transport contracts subscribed with the TSOs are maintained. Client holders of the fixed delivery charge to PEG North or TRS will automatically benefit from access to the TRF PEG.

The contractual imbalance of each shipper will be calculated globally on the scale of the whole TRF. Then, each day, the TSOs will divide this global imbalance of a portfolio between the two balancing zones, GRTgaz and TIGF. The key to distributing the imbalance will depend on the type of shipper: end client supplier, importer/exporter, PEG *trader*.

7.2 Decision on treatment of maintenance work in the single market area

Maintenance work is affected in the form of "mutualised restrictions" in proportion to the subscribed capacity, according to the following rules:

- if the work relates to a particular point, the capacity restriction relates to the point concerned;
- if the works are located on the northern structures of the GRTgaz network (limits N1, N2, N3, NS1 described in paragraph 2.3.4), the mutualised restriction concerns the superpoints located upstream to it.
- if the works are located on the southern structures of the GRTgaz network or on the TIGF structures (NS2, NS3, NS4, S1 limits described in paragraph 2.3.4), the mutualised restriction applies to the superpoints located downstream of the limit concerned.

In exceptional cases where work is carried out outside the summer period, this rule must be declined according to the level of consumption:

Consommation France (GWh/j)	Eté à hiver doux (consommation inférieure à 1750 GWh/j)	Hiver moyen à froid (consommation comprise entre 1750 et 2800 GWh/j)	Hiver très froid (consommation supérieure à 2800 GWh/j)
N1/2/3 et NS1	Amont		
NS2 et NS3	Aval	Amont	
NS4 et S1	Aval		Amont

The CRE retains GRTgaz's aforementioned proposal as allocation of maintenance work, by default, and requests the TSOs to consult one another when establishing work programmes, in the aim of finding the least restrictive solution for shippers. The CRE also asks the TSOs to monitor and present the restriction allocation indicators at the Concertation Gaz so that market players and the CRE can assess the balance of the allocation of the impact of maintenance work on the various points of the network. A possible subsequent modification of the allocation rule could be envisaged based on feedback and market demands.

7.3 Decision on the planned treatment of maintenance work with an impact of less than 30 GWh/d known as "small jobs"

Small-scale maintenance could be treated by congestion removal mechanisms to reduce its impact on the availability of firm capacities. Initially, the CRE considers that the threshold of 30 GWh/d is suitable.

The CRE considers it essential that work programmes continue to give shippers information on all maintenance work, including when treated by means of mechanisms for congestion removal.

7.4 Decision on daily congestion removal mechanisms

If congestion occurs, or is anticipated, the TSOs will trigger mechanisms. The mechanisms retained include the following:

- Agreements with adjacent infrastructure operators (*swaps)*.
- Interruption of interruptible capacities on D-1.
- Non-trading of unsubscribed capacities on D-1 and D-Day.
- *Buying of locational spread*: TSOs would simultaneously contract the purchase of gas downstream of the congestion and the sale of gas upstream of it.
- Mutualised nomination restrictions in a congestion situation.

The order of prioritisation is as follows:

	NS1	NS2	NS3	NS4
In the event of daily constraints	1. Implementation, if possible, of inter-operator mechanisms, particularly with Fluxys 2. Interruption of interruptible capacities 3. Non-trading of available firm capacities 4. Locational *spread*	1. Interruption of interruptible capacities 2. Non-trading of available firm capacities 3. Locational *spread*		
In the event of the mechanisms failing	Mutualised restriction			

The rules for triggering mechanisms are defined by the TSOs in accordance with their proposal.

7.5 Decision on monitoring storage filling levels downstream of congestion and eventual means of action

The TSOs will implement the daily monitoring of storage levels downstream of each bottleneck for the winter, to ensure that locational *spread* offers are properly available in the short-term and to ensure continuity of supply.

The CRE considers that monitoring and eventual means of action seek solely to ensure continuity of firm transmission offers. Therefore, the CRE concludes that it is not possible to use market mechanisms to ensure the interruptible offer. Consequently, in the event of threat to the continuity of supply, firstly, the marketing of interruptible products should be suspended. Secondly, market mechanisms must be planned if the situation remains critical.

7.6 Decision on coverage of the costs incurred by the TSOs

Costs incurred by congestion management will be including in the transmission tariff, in the form of an annual trajectory. Discrepancies in the trajectory will be incorporated into the Income and Expenditure Regulation Account (CRCP).

Costs incurred by congestion management on ‘minor work’ days will be treated in the same way.

7.7 Decision on the specific case of winter 2017-2018

Should congestion occur in winter 2017-2018, GRTgaz and TIGF may have the option of buying locational *spread*, according to the methods defined in paragraphs 6.3 and 6.4.

7.8 Decision on TSO balancing rules

The automated buying and selling parameters will be relaxed as of winter 2017-2018, to enable TSOs to meet their needs in critical imbalance situations.

The trial concerning locational products for balancing is extended. The trade prices regarding these products are included in imbalance settlement prices.

The gas circulation service has been removed.

7.9 Requests for the TSOs to work with Concertation Gaz

Before establishing the merger of zones, at the Concertation Gaz, the CRE asks the TSOs to:

- work on alternative plans in case of delays in commissioning of the works;
- pursue their work with Concertation Gaz to involve shippers in the operational implementation of locational *spread*;
- work on the rules for accurate triggering of congestion removal mechanisms;
- concerning the *Winter Outlook,* include market players during its preparation;
- work with other operators, in particular storage operators on the inter-operator *swap* mechanism to be able to resolve bottlenecks other than NS1 without affecting shippers.
- work on the system for monitoring storage filling levels downstream of congestion and eventual means of action and define their exact operation, in particular regarding the monitoring indicators, the assumptions under consideration, the resources to be implemented and the associated deadlines.
- send a proposal to the CRE regarding the above elements by April 2018 at the latest. This proposal will be the subject of a CRE deliberation.

After establishing the merger of zones, the CRE asks the TSOs:

- to monitor and present the restriction allocation indicators due to maintenance work so that market players and the CRE can assess the balance of the allocation of the impact of maintenance work on the various points of the network;
- that feedback from experience be presented in order to measure the cost of the treatment of maintenance work with an impact of less than 30 GWh/d and to possibly reassess the 30 GWh/d threshold;

This deliberation will be published in the Journal Officiel de la République Française (Official Journal of the French Republic) and sent to the Minister of State, Minister of Ecological Transition and Solidarity, and the Minister of Economy and Finance.

Deliberated in Paris, on 26 October 2017.

For the French Energy Regulatory Commission,

President,

Jean-François CARENCO