

Proposal from TIGF concerning the changes necessary in its balancing system to comply with the principles of the 3rd directive.

Context

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On 21 June 2011, TIGF presented the “balancing” working group of ConcertationGaz with a study of the changes necessary in its balancing system in order to comply with the principles of the new European regulations¹.

Following comments from the parties involved, TIGF has proposed a series of short-term (2011-2012) and medium-term (2013-2014) changes. Those proposals are set out within this document, the purpose of which is to assist in the public consultation (summer/autumn 2011) by the Energy Regulation Commission (CRE). A schedule for the proposals can be found in Appendix 1 (attached).

In addition, within the TIGF area, shippers have access to a flexible product known as the Daily Balancing Service (SEJ). TIGF has undertaken to check whether that product, which is rated highly by actors in the market, is compatible with the new regulations. The analysis, given in Appendix 4, gives no reason to question the continuation of the SEJ.

Principles

Following its analysis of European regulations, and particularly the ACER² framework guidelines, TIGF has adopted two main guiding principles:

- The settlement of shippers’ imbalances must take place at the end of each gas day.
- TIGF must cover its balancing requirements as far as possible in accordance with market mechanisms.

¹ In accordance with the 30 September 2010 deliberation of the CRE and its decision on changes to balancing rules on the gas transport grid

² The ACER has undertaken a public consultation on draft framework guidelines relating to the balancing of gas transport grids, the results of which are expected in September 2011.

Towards settlement at the end of the day for shipper imbalances

At present, at 12.30 every day, TIGF provides each shipper with a statement of their account for the previous gas day. That statement contains personalised information based on both PICs³ and PITDs⁴. For each PITD, the aggregate of profiled customers and the aggregate of non-profiled customers provided to TIGF by distribution system operators are communicated to shippers.

In return for this information provided following the end of the gas day concerned, TIGF allows each shipper a certain tolerance regarding settlement of their imbalance at the end of the day, and within certain limits allows them to carry forward their daily imbalances from one day to the next, clearing the balance at the end of the month.

That mechanism is not compatible with the principle of settlement of imbalances at the end of the day.

Short-term proposal

Provision of information during the day

Metering⁵ of delivery stations in the TIGF area is largely fulfilled by DH meters (of which there are 350), and to a lesser extent by HH meters (of which there are 90) and MM/MD meters (of which there are 40). Roughly 90% of consumption within the area is measured by DH meters.

TIGF proposes the introduction of remote reading of its DH meters every four hours, instead of the current once-daily regime (the meters thus changing from DH to 4HH).

The remotely-read information will be processed automatically, without human validation, so that it can be provided in terms of energy and expressed using a time-based format (kWh per hour).

The algorithms used will follow these simple rules:

- Aggregation by PIC and PITD
- Use of the HCV⁶ available for the previous gas day
- Missing data substituted by the last known data
- Indication of substitute data
- No archiving in excess of two months

³ PIC = Consumer Interface Point = point of delivery to a final consumer connected to the TIGF grid

⁴ PITD = Distribution Transport Interface Point = Point of delivery to a gas distribution grid

⁵ DH, HH, MM, MD: M = Month, D = Day, H = Hour. The first letter indicates the frequency of remote reading; the second corresponds to the metering time base (e.g.: DH means that the information is read once a Day in an Hourly format, and comprises 24 values)

⁶ HCV = Higher Calorific Value

Each shipper may access the information for each PIC to which they provide a delivery, along with each of the PITDs in the TIGF balancing zone if they provide deliveries to at least one of them. In addition, they shall also have access to aggregated information about all PICs and all PITDs.

The information shall be published every hour where aggregations concern HH meters only; otherwise it shall be published every four hours. It shall be made available in the form of “xml” files.

In addition, the information aggregated over the course of the day for all PICs and PITDs shall be published on the www.tigf.fr website for the information of the wider public.

Medium-term proposal

Campaign to roll out HH metering across PICs

In order to extend the provision of hourly information over the course of the day to all PICs, TIGF proposes a special campaign to extend the HH metering system.

That campaign will cover approximately 120 metering points (about one hundred on daily readings and twenty on monthly readings). The cost (CAPEX) is estimated to be 1.2 million euros.

Eventually, the roll-out of HH metering to PICs will result in operating costs (OPEX) of approximately 150k euros/year.

Forecasting consumption at PITDs and adjusting the settlement of imbalances

For PITDs, where the transmission system operator’s metering systems are unable to differentiate between profiled and non-profiled customers, nor to assign quantities to each shipper, TIGF proposes to integrate the model adopted in the draft framework guidelines into its balancing system; this will involve TIGF providing a consumption forecast figure for each day, to be issued the day before and updated at appropriate intervals during the day in question. That forecast figure, unique to each shipper, shall be broken down into profiled consumers on the one hand and non-profiled consumers on the other.

With this in mind, TIGF will contact the distribution system managers in order to introduce the forecast model described above and shall as a consequence make changes to the end-of-day settlement mechanism for shippers’ imbalances.

Since TIGF and GRTGaz share a single distribution system manager, namely GrdF, TIGF will be particularly careful to avoid the development of two separate systems with this common operator.

Removal of daily imbalance running total

As for the running total of daily imbalances, TIGF proposes that the mechanism be discontinued and imbalances reset to zero at the end of each day, rather than at the end of each month. The way the mechanism operates at present and the proposed new system are illustrated in Appendix 2 to this document.

Furthermore, TIGF proposes to introduce changes to the current settlement charge alongside the daily zeroing of imbalance figures. This change is described in the second part of Appendix 3, particularly the weighted average price of transactions for quantities within the daily discrepancy tolerance.

Towards market-based balancing

At present TIGF covers its transport grid balancing needs through its access to the flexible reserves at the Lussagnet storage facility.

Meanwhile, the draft framework guidelines call on transmission system operators to turn to the market as much as possible, preferably over the short term, to provide the flexibility they need.

In its 30 September 2010 deliberation, the Energy Regulation Commission (CRE) noted that liquidity in the Southwest PEG was low and that the TIGF balancing system was well suited. Inversely, the CRE thinks that interventions by TIGF in the market would help to increase market liquidity, as has been the case with the GRTGaz network.

On the one hand, TIGF's interventions would lead to transaction prices which, being integrated into shippers' end-of-day imbalance settlement charges, would enable TIGF to conform to the target model of cost reflectivity set out in the draft framework guidelines.

On the other hand, the shippers' end-of-day imbalance settlement charges are currently subject to penalties which fall well outside the European recommendations and are applied in conjunction with daily tolerances.

Short-term proposal

Interventions on the Powernext market

Initially, TIGF proposes to intervene in the organised Powernext Commodities market managed by Powernext SA, to buy and sell Day-Ahead and Week-End⁷ products on the TIGF gas exchange point (Southwest PEG).

TIGF agrees that transactions for delivery the following day(s) are an intermediary stage. The development of these interventions to cover products for delivery in the course of a day is to be studied as part of TIGF's medium-term proposals, detailed below in the "Network balancing requirements" section.

Transactions will cover quantities of between 250 MWh and 1500 MWh and shall be calculated on the basis of shippers' residual imbalance⁸ quantities.

⁷ Day-Ahead and Week-End products correspond to quantities of gas delivered on the day or weekend following the day of the transaction.

⁸ Residual imbalance quantities correspond to the aggregation of buying/selling quantities for the shippers' accounts as a whole

Buying and selling shall be conducted by TIGF personnel, with the company acting as “price-taker” or as orders’ submitter. TIGF personnel:

- may intervene on every working day, according to calculated quantities.
- Shall intervene within generally advertised fixed hours (for example from 16:30 16:45, the precise time slot to be fixed by Concertation Gaz).
- may not intervene if the difference between buying and selling orders in the order book (the bid/ask spread) is greater than 1 euro/MWh.

Price and quantity information shall be published on the TIGF website.

Changes to imbalance settlement charges

With regard to the pricing currently used for shippers’ end-of-day imbalance settlement charges and in accordance with the intervention arrangements detailed above, TIGF proposes:

- for days when it has intervened, to replace the Powernext Gas Spot EOD PEG South reference for delivery on day D with the marginal price obtained by TIGF for the same delivery day D, to which the commission charged by Powernext and its clearing house (ECC)⁹ shall be added.
- otherwise, to keep the Powernext Gas Spot EOD PEG South reference for delivery on day D. In this case only, the price used shall, as it is now, be increased by the Surcharge, which is currently equal to €0.39/MWh, which corresponds to the cost of transport between the two balancing zones.

The details of that mechanism and the definition of the marginal price can be found in Appendix 3 to this document.

Changes to penalties

Once the replacement mechanism mentioned above has been put in place, TIGF proposes to replace the penalty of +/- 50% currently applied to the imbalance settlement charge with the “small uplift or reduction” specified in Clause 5.1 of the draft framework guidelines.

TIGF proposes to set this uplift or reduction at +/- 0.35 euros/MWh. That amount is close to the discrepancy between the marginal price charged by the National Grid and the average price on the English market (+0.33 euros/MWh selling, -0.37 euros/MWh buying). For the purposes of comparison, the injection and withdrawal prices for TIGF’s storage offer are 0.17 euros/MWh and 0.27 euros/MWh respectively.

⁹ The commission charges levied by Powernext and its clearing house (ECC) are published on their respective websites. As a guide, where TIGF intervenes, these are estimated to be 0.02 euros/MWh.

Continuation of Daily Discrepancy Tolerances

Regarding the daily discrepancy tolerance in operation for the end-of-day imbalance settlement charges, TIGF proposes to maintain it at its current level. Any changes to it shall be the subject of further review within ConcertationGaz.

Medium-term proposal

Network balancing requirements

TIGF has no tool for the real-time monitoring of its daily network balancing requirements which could be used to define and forecast its interventions in the market, and certainly not operations in the course of a day for delivery on the same day.

The introduction of such tools (and associated publications) requires significant development both of grid control systems and computer processing.

Furthermore, a number of points concerning access conditions to the flexibility market still need to be clarified as part of the European network code.

TIGF proposes that the work to be undertaken by TIGF in this field shall be subject to regular reviews within ConcertationGaz.

Appendix 1: Schedule

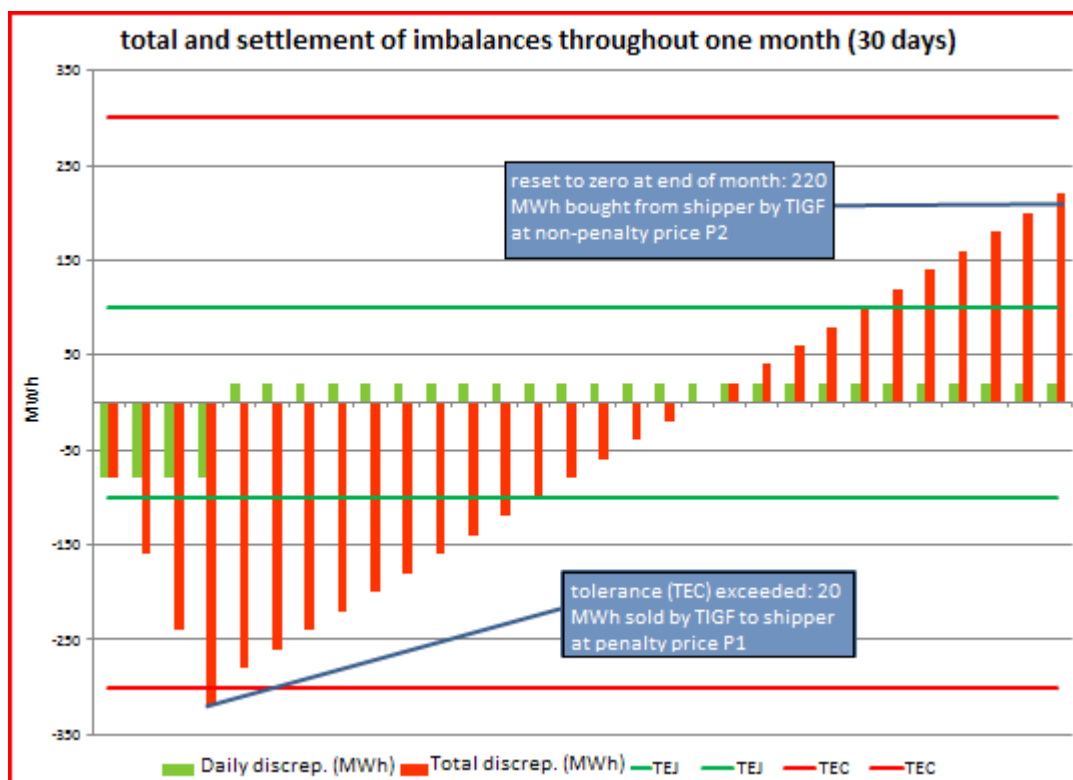
The following table summarises TIGF's proposals for development of its balancing system

Short term	Interventions in the Powernext market for residual imbalance quantities on its Day-Ahead or Week-End products.	End 2011
	Changes to imbalance settlement charges: if TIGF intervenes, it is the intervention price which is adopted; otherwise the current reference price is retained.	Once TIGF starts intervention in the market
	Changes to penalties, replaced by an uplift or reduction of 0.35 euros/MWh.	Once TIGF starts intervention in the market
	Provision of remotely-read information from PICs and PITDs during the course of the day at an hourly and four-hourly frequency.	End 2012
	Continuation of Daily Discrepancy Tolerances	To be adapted as work progresses in other areas
Medium term	Campaign to roll out HH metering across PICs	End 2013
	Forecasting consumption at PITDs and adjusting settlement of imbalances.	Target date 2014 (dependent upon cooperation from distributors)
	Removal of daily imbalance running total	2014
	Network balancing requirements: TIGF to intervene in the market for delivery the same day.	Target date 2014 (dependent upon maturity of the flexibility market)

Appendix 2: Removal of daily imbalance running total

At present, TIGF allows each shipper to carry forward their imbalances from one day to the next, up to a tolerance limit known as the Total Discrepancy Tolerance (TEC). The TEC is three times the Daily Discrepancy Tolerance (TEJ). At the end of each month the running total for each shipper is reset to zero.

Illustration of current operation



Hypothesis

- The shipper has a Daily Discrepancy Tolerance of 100 MWh, and consequently a Total Discrepancy Tolerance of 300 MWh.
- Over the first 4 days of the month, the shipper has a daily imbalance of -80 MWh. (the shipper is not delivering enough gas to the network).
- Over the following 26 days, the shipper has a daily imbalance of +20 MWh. (the shipper is delivering too much gas to the network).

Settlement of imbalances

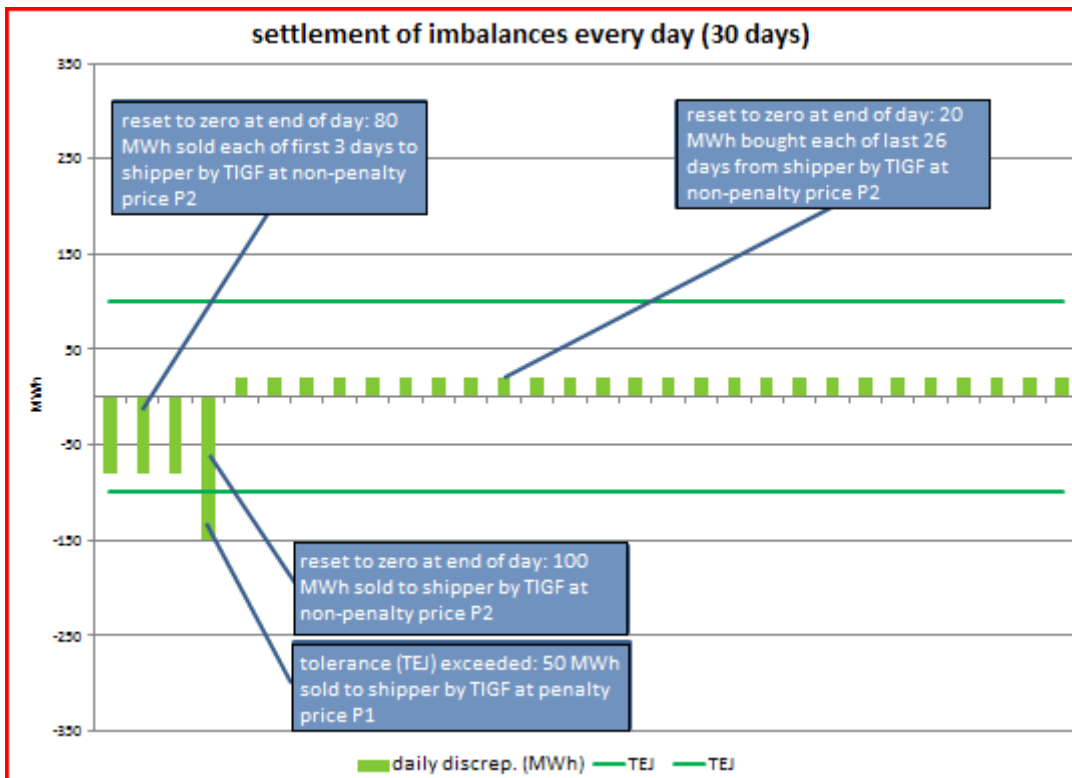
- All of the shipper's daily imbalances are less than its TEJ, so there is no purchase/sale.
- At the end of the fourth day, the total imbalance amounts to -320 MWh, which is 20 MWh above the TEC. TIGF corrects this excess deviation, selling the missing 20 MWh to the shipper at a penalty price P1, restoring the total imbalance down to the TEC.
- Over the next 26 days (in a 30-day month), an imbalance of +20 MWh is seen every day. By the end of the month, the total imbalance therefore works out at $-300 + 520 = 220$ MWh. To restore the total imbalance to zero at the end of the month, TIGF buys back that quantity from the shipper at a non-penalty price P2.

Definition of prices P1 and P2

- P1: Powernext Gas Spot EOD PEG South price for DA or WE products for delivery on the day of the imbalance. Depending on whether P1 is a purchase or sale price, a penalty of +/-50% shall apply to the price. In all cases, P1 shall be increased by the Surcharge.
- P2: arithmetical mean of the Powernext Gas Spot EOD PEG South references for DA or WE products for delivery over the last seven days of the month. No penalty is applied to P2. Whether P2 applies to a sale or purchase, it is increased by the Surcharge.
- Surcharge: €0.39/MWh, which corresponds to the cost of transport between the GRTgaz south zone and the TIGF zone

Illustration of the target operation without total discrepancy (TEC = TEJ), and thus with daily settlement of imbalances

- Under the hypothesis above, TIGF would sell to the shipper (over the first 4 days of the month) or would buy from the shipper (the next 26 days) their daily imbalance quantity at the non-penalty price P2 to cover the daily return to zero.
- Should the Daily Discrepancy Tolerance be exceeded, the quantities corresponding to the TEJ would be sold/purchased at the non-penalty price P2, and the excess quantities would be sold/purchased at the penalty price P1.
 - Example:
 - the daily imbalance quantity stands at -150 MWh. To eradicate that imbalance, TIGF sells 100 MWh to the shipper at non-penalty price P2, and 50 MWh at penalty price P1.



Appendix 3: Changes to imbalance settlement charges

Changes to pricing within the current system

Concerning the tariff currently used for end-of-day settlement of shippers' imbalances and in accordance with the trading arrangements detailed above, TIGF proposes:

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- for days when it has intervened, to replace the Pownext Gas Spot EOD PEG South reference for delivery on day D with the marginal price obtained by TIGF for the same delivery day D, with the commission charged by Pownext and its clearing house (ECC)¹⁰ either added or subtracted.
- otherwise, to keep the Pownext Gas Spot EOD PEG South reference for delivery on day D. In this case only, the price used shall, as it is now, be increased by the Surcharge, which is currently equal to €0.39/MWh, which corresponds to the cost of transport between the two balancing zones.

Let us take the case of a shipper with an imbalance on day D of -150 MWh (the shipper is not delivering enough gas to the network). This shipper has a Daily Discrepancy Tolerance (TEJ) of +/- 100 MWh/d.

On day D, TIGF sells 50 MWh to the shipper at the P1 penalty price.

- If TIGF has undertaken market interventions for delivery on that same day D, the prices obtained for delivery on day D will form a marginal price, with the commission charged by Pownext and its clearing house either added or subtracted.
 - The marginal price corresponds:
 - If a selling price is being established: to the highest transaction price.
 - If a buying price is being established: to the lowest transaction price.
 - The commission charged by Pownext and its clearing house are combined with the marginal price as follows:
 - If a selling price is being established: the commission shall be added to the marginal price.
 - If a buying price is being established: the commission shall be deducted from the marginal price.
 - Thus, in our example, TIGF shall sell 50 MWh to the shipper on day D at the highest transaction price for delivery on that same day, plus commission of 0.02 euros/MWh and an uplift of 0.35 euros/MWh, without Surcharge.

¹⁰ The commission charges levied by Pownext and its clearing house (ECC) are published on their respective websites. As a guide, where TIGF intervenes, these are estimated to be 0.02 euros/MWh.

- If TIGF has not undertaken any market interventions for delivery on the same day D, the PEG South reference is retained.
 - Thus, in our example, TIGF sells 50 MWh to the shipper on day D at the Powernext Gas Spot EOD PEG South reference price for DA or WE products for delivery on day D, plus an uplift of 0.35 euros/MWh and the Surcharge.
- Since the marginal price and reference price are both based on Day-Ahead or Week-End products, they are known before their application through settlement of the imbalances. The reference price is published by Powernext. TIGF shall publish its transaction prices on its website at www.tigf.fr

The P1 penalty price as described above also applies to the settlement of any Total Discrepancy Tolerance (TEC) overshoot.

Total discrepancies are settled at the end of the month, as they are at present, at price P2, which corresponds to the arithmetical mean of Powernext Gas Spot EOD PEG South reference prices for DA or WE products for delivery over the last seven days of the month. There is no penalty applied to P2. Whether P2 applies to a sale or purchase, it is increased by the Surcharge.

Changes to be made to the price in question alongside the removal of total imbalances

With the removal of the running total for imbalances, for the example given above, TIGF shall sell to the shipper on day D, in addition to the 50 MWh at the P1 penalty price, 100 MWh at the non-penalty P2 price.

- Proposal for price P2: the arithmetical mean of the Powernext Gas Spot EOD PEG South reference price for DA or WE products for delivery over the last seven days of the month, as defined above, does not sit well with settlement at the end of the day. So TIGF is proposing to remove the use of the average for the last seven days and to match P2 to the Powernext Gas Spot EOD PEG South price for DA or WE products for delivery on the day of the imbalance.
- If TIGF has undertaken market interventions for delivery on that same day D, the prices obtained for delivery on day D shall constitute a marginal price and an average price, to which commission charged by Powernext and its clearing house shall be either added or subtracted.
 - The average price corresponds to the quantity-weighted average transaction price.
 - The marginal price corresponds:
 - If a selling price is being established: to the highest transaction price.
 - If a buying price is being established: to the lowest transaction price.
 - The commission charged by Powernext and its clearing house are combined with the marginal price and the average price as follows:

If a selling price is being established: the commission shall be added to the marginal price and/or average price.

If a buying price is being established: the commission shall be deducted from the marginal price and/or average price.

- Thus, in the example, TIGF sells to the shipper on day D:
 - 50 MWh at the highest transaction price for delivery on that same day, plus commission of 0.02 euros/MWh and an uplift of 0.35 euros/MWh, but without Surcharge.
 - 100 MWh at the weighted average price of transactions for delivery on that same day, reduced by commission of 0.02 euros/MWh, without penalty or Surcharge.
- If TIGF has not undertaken any market interventions for delivery on the same day D, the PEG South reference is retained.
 - In the example, TIGF sells to the shipper on day D:
 - 50 MWh at the Pownext Gas Spot EOD PEG South price for DA or WE products for delivery on day D, increased by an uplift of 0.35 euros/MWh and the Surcharge.
 - 100 MWh at the Pownext Gas Spot EOD PEG South price for DA or WE products for delivery on day D, without penalty and increased by the Surcharge.

Summary

The table below gives a summary of the changes to the imbalance settlement prices set out above. The second and third columns apply to prices P1 and P2 respectively. When a transaction-based price is notified, that is the one which shall apply. Otherwise, the price based on the PEG South reference shall apply.

<p>Current situation</p>	<p>P1 = Powernext Gas Spot EOD PEG South reference price for DA and WE products for the delivery day concerned (day D)</p> <ul style="list-style-type: none"> • P1 carries a penalty of +/-50% • P1 is increased by 0.39 euros/MWh (transit) 	<p>P2 = arithmetical mean of the Powernext Gas Spot EOD PEG South reference price for DA or WE products for delivery over the last seven days of the month concerned</p> <ul style="list-style-type: none"> • P2 carries no penalty • P2 is increased by 0.39 euros/MWh (transit)
<p>Short term (from the start of interventions on Powernext)</p>	<p>P1 = Powernext Gas Spot EOD PEG South reference price for DA and WE products for the delivery day concerned (day D)</p> <ul style="list-style-type: none"> • P1 carries a penalty of +/-0.35 euros/MWh • P1 is increased by 0.39 euros/MWh (transit) <p>P1 = marginal price on transactions undertaken by TIGF for the delivery day D concerned, combined with the commission charges from Powernext and its clearing house (ECC)</p> <ul style="list-style-type: none"> • P1 carries a penalty of +/-0.35 euros/MWh • P1 is not subject to a surcharge 	<p>P2 = arithmetical mean of the Powernext Gas Spot EOD PEG South reference price for DA or WE products for delivery over the last seven days of the month concerned</p> <ul style="list-style-type: none"> • P2 carries no penalty • P2 is increased by 0.39 euros/MWh (transit)
<p>Medium term (introduced with the removal of the daily imbalance running total)</p>	<p>P1 = Powernext Gas Spot EOD PEG South reference price for DA and WE products for the delivery day concerned (day D)</p> <ul style="list-style-type: none"> • P1 carries a penalty of +/-0.35 euros/MWh • P1 is increased by 0.39 euros/MWh (transit) <p>P1 = marginal price on transactions undertaken by TIGF for the delivery day D concerned, combined with the commission charges from Powernext and its clearing house (ECC).</p> <ul style="list-style-type: none"> • P1 carries a penalty of +/-0.35 euros/MWh • P1 is not subject to a surcharge 	<p>P2 = Powernext Gas Spot EOD PEG South reference price for DA and WE products for the delivery day concerned (day D)</p> <ul style="list-style-type: none"> • P2 carries no penalty • P2 is increased by 0.39 euros/MWh (transit) <p>P2 = weighted average price on transactions undertaken by TIGF for the delivery day D concerned, combined with the commission charges from Powernext and its clearing house (ECC).</p> <ul style="list-style-type: none"> • P2 carries no penalty • P2 is not subject to a surcharge

Appendix 4: Daily Balancing Service (SEJ)

The Daily Balancing Service (SEJ) is a flexible product directly marketed by TIGF as a storage provider to shippers.

It enables shippers subscribing to the service (not all of them subscribe) to revise their Storage Transport Interface Point (PITS) notification according to their imbalance at the end of the day on the transport network.

Let us suppose that a shipper, through the SEJ, can withdraw a quantity of 100 MWh/d from the Lussagnet storage facility. If their account shows a deficit of -150 MWh/d at the end of the day, then a quantity of 100 MWh/d is automatically scheduled to be input from the PITS on behalf of that account. Such scheduling is implemented once the gas day has closed.

TIGF has considered how the continuation or removal of the end-of-day notification revision mechanism at the PITS, which operates automatically and retrospectively, will comply with the new regulations.

TIGF can find no incompatibility in respect of Clause 4.2 “nomination procedure” of the ACER draft framework guidelines. In particular, the SEJ does not entail any harmonisation difficulties at the PITS and fits perfectly with the criterion of a minimal response time to enable shippers to adjust their positions. Moreover, the retrospective revision at the PITS of the end-of-day notification is a practice which fits well with the other regulatory obligations, not least the Transport-Transport Interface Point (PITT) nomination procedures, which are generally more restrictive in terms of renomination deadlines.

TIGF has also considered the link between the SEJ and the quality of nominations.

Considering that shippers balance their account through the day and not only at the end of the day, TIGF would value the best possible information from shippers, with or without the SEJ. In addition, the provision of information during the course of the day should encourage this good practice. Any other approach would lead to a different outcome, if it became difficult for the operation of the network, with the implementation of clause 4.1 “Balancing period” of the draft framework guidelines, imposing constraints on shippers during the course of a day.

In conclusion, TIGF does not envisage the removal of the SEJ in the short or medium term.