Deliberation of the French Energy Regulatory Commission (Commission de Régulation de l'Energie) of 30 April 2009 adopting guidelines on conditions of access to natural gas transmission networks for electricity-generating stations

The following were present at the meeting: Mr Philippe de LADOUCETTE, Chairman; Mr Michel LAPEYRE, Vice-chairman; Mr Maurice MÉDA, Vice-chairman; Mr Pascal LOROT and Mr Emmanuel RODRIGUEZ, Commissioners.

1. Background

Since 2006, many project developers submitted requests to GRTGAZ and TIGF, the two natural gas transmission system operators (TSOs), to connect their natural-gas-fired electricity-generating stations to gas transmission networks. The TSOs have identified a number of gas transmission system operating constraints in view of the high gas consumption levels of these generating stations and their need for intraday flexibility.

In a letter to CRE dated 26 January 2009, GRTgaz stated that when the generating stations were operating at semi-baseload and at peakload, they would "require particularly high intraday flexibility in gas supply, which GRTgaz is not currently in a position to provide. In these circumstances, GRTgaz recommends reviewing the pricing and operating rules applicable to such installations".

Considering the importance for natural gas and electricity markets of the conditions of access to natural gas transmission networks for electricity-generating stations, CRE decided to give the TSOs and project developers a hearing. It also went ahead with a public consultation from 3 to 31 March 2009 to allow all market players to give their comments on the transportation and balancing rules that could apply to these stations. CRE presented two foreseeable models in its consultation:

- the GRTgaz proposal to set up an hourly balancing system for electricity-generating stations, or even for large consumers characterised by significant fluctuations in demand. This proposal is described in the GRTgaz statement of intent attached to the public consultation,
- an "integrated" model, whereby the TSOs supply to electricity-generating stations integrates intraday flexibility, as it does for other gas consumers, while maintaining daily balancing for shippers.

Drawing on the findings of the public consultation (a summary of which is published along with this deliberation), this deliberation lays down the principles relating to gas transportation and balancing conditions for electricity-generating stations connected to gas transmission networks. It also includes guidance for the working group responsible for this matter within the framework of the Gas Consultation ("Concertation Gaz")[1].

[1] « Concertation Gaz » (Gas Consultation) : Deliberation of CRE dated 18 September 2008 concerning the creation of a discussion group on the rules governing transportation by the gas transmission networks

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2. CRE observations

CRE first points out that the thirty-seven contributions to the public consultation offer a wealth of analytical material and proposals which will be of great use to the working group responsible for this matter as it proceeds with its work.

The results of the public consultation confirm the strong disagreement, already observed by the consultation group during its activities in 2008 and 2009, between gas infrastructure operators and most market players regarding the transportation and balancing rules to be applied to electricity-generating stations.

In order for consultation activities to proceed effectively and without delay, CRE must therefore give guidance and lay down the principles to be observed.

In accordance with the law, CRE has defined the guidance and principles below with a view to promoting smooth operation of the electricity and natural gas markets and for the benefit of end users of both sources of energy.

2.1. Need for a general study of the ability of gas infrastructures to provide the flexibility that electricity-generating stations require to operate

The first analyses carried out by the TSOs focused on their ability to provide the flexibility that electricity-generation stations require to operate.

In their replies to the public consultation, all producers and shippers, consider that the GRTgaz preliminary study, presented in its statement of intent, is not exhaustive or precise enough to justify its proposal to change the transportation and balancing rules.

CRE shares this opinion. It considers that it is for GRTgaz and for TIGF on the south-west of France to conduct a technical-economic study, incorporating contributions and analyses from other gas infrastructure operators, and with a particular focus on the following points:

- the intraday flexibility used by existing consumers, bearing in mind that natural gas networks are sized to meet the requirements of a cold winter with a 2% risk and taking into consideration the hourly metering data of industrial consumers connected to transmission networks,
- the intraday flexibility that the French gas system as a whole (transmission networks, storage facilities, LNG terminals and adjacent networks) is capable of providing at present, specifying any possible adaptations to be made to gas infrastructure operating methods and the related extra costs,
- the additional intraday flexibility that could be obtained by gradually moving ahead with the various investments scheduled or contemplated for gas infrastructures and through improved management of interfaces between transmission networks and other gas infrastructures, again specifying any extra operating costs involved,
- assumptions concerning the commissioning of electricity-generating plants, taking into account the scenarios formulated in the Multiannual Investment Program in electric generation as well as the signed contracts to connect to gas transmission networks,
- assumptions concerning electricity-generating plant operation, based on data provided by project developers in their answers to the public consultation. In particular, the project developers ask GRTgaz to change the assumption based on eight hours of operation per day for combined-cycle gas turbines (CCGT), and to take into consideration the portfolio effects of electricity-generating plants and those of other gas consumers,
- if there is not enough intraday flexibility available on the gas system to meet demand at a given time, the type of investment required at the different gas infrastructures, specifying the costs and possible commissioning deadlines.

The specifications of this study shall be validated by the Gas Consultation and its results may, if necessary, be audited by CRE.

2.2. Balancing conditions on French natural gas transmission networks for electricity-generating stations

2.2.1. Maintaining daily balancing

According to public consultation results, all players are in favour of maintaining a daily balancing system on gas transmission networks. They consider that an hourly balancing system would be complicated and costly and put newcomers and small suppliers at an unfair disadvantage.

CRE confirms its support for the principle of a daily balancing system, recommended by ERGEG in the *Guidelines for Good Practice for Gas Balancing*, and its opposition to a generalised hourly balancing system in France, for the following reasons:

- managing an hourly system is a complex task and would lead to the risk of serious malfunctions; it would also be a barrier to access for small suppliers which do not have the necessary resources for hourly monitoring and which would be exposed to a greater risk of having to pay balancing penalties,

- the extra management and information system costs would be borne by all players in the gas supply chain and, ultimately, by gas and electricity consumers,

- the hourly system could be detrimental to the optimisation of the gas system, the physical characteristics of which are well suited to daily balancing,

- insufficient liquidity on intraday markets, which could lead to higher prices for consumers.

2.2.2. GRTgaz proposal to introduce hourly balancing constraints

All players share a preference in principle for daily balancing on French gas transmission networks. There is some disagreement, however, as to how this preference should be reflected:

- most gas infrastructure operators feel that hourly balancing constraints should be imposed on shippers delivering gas to electricity-generating stations and, by extension, on large industrial consumers characterised by significant fluctuations in demand, with a daily balancing system being maintained for all other consumers. They explain their position by:
    - the important volume of intraday flexibility induced by a large number of CCGT;
    - the requirement to permanently ensure the balancing of the gas system;
    - the significant costs related to the supply of intraday flexibility;
    - the need to avoid cross-subsidies from the gas consumers to electricity consumers.

- a large majority of the players concerned, producers, shippers and industrial consumers, reject the GRTgaz proposal:

    - industrial consumers are against any hourly balancing constraint that might be imposed on them owing to the start-up of electricity-generating stations, which has nothing to do with them,

    - almost all producers and shippers disapprove of any hourly balancing constraint specific to certain consumer categories. Implementing two balancing systems side by side with different time intervals would, in their opinion, complicate operational management and would lead to discrimination, as all gas consumers need intraday flexibility. Were there to be any justification for imposing such constraints, they should be imposed on all gas consumers, not only on large consumers characterised by significant fluctuations in demand.

CRE considers that:

a) GRTgaz has not proven that the existing daily balancing system cannot be maintained as a result of the commissioning of electricity-generating stations planned up till 2012:

   - for several years now, GRTgaz has offered intraday flexibility to the two electricity-generating stations connected to its network (the combustion turbine (TAC) in Gennevilliers since 1992 and DK6 since 2005), within a daily balancing system,

   - the claim by GRTgaz, supported by other gas infrastructure operators, concerning competition between gas and electricity is not valid, because it is not for GRTgaz to promote one use of gas rather than another,

   - the parallel drawn with other European systems is not fully justified regarding the balancing system applied to electricity-generating stations. Other countries where electricity-generating stations have greater installed capacity have maintained a daily balancing system. For example, 25,000 MWe in service in the United Kingdom, 22,000 MWe in Italy and 22,000 MWe in Spain. CCGTs operating in France in 2012 will represent a power output of around 5,000 MWe[2]. What's more, the German system was set up too recently for enough operating feedback to be available,

b) The system proposed by GRTgaz would have some serious drawbacks that would not be offset by the advantages described by GRTgaz in its statement of intent:

   - it includes some significant legal risks insofar as all consumers require intraday flexibility. Introducing thresholds for the application of an hourly balancing constraint would worsen or at least complicate access conditions for some industrial consumers, which is not desirable,

   - having two contractual systems existing side by side on the same gas infrastructures would increase the number of interfaces and be detrimental to system optimisation.

For these reasons, CRE rejects the GRTgaz proposal to introduce hourly balancing constraints for CCGT and for large industrial consumers characterised by significant fluctuations in demand, as of the summer 2009. It considers that the GRTgaz proposal could only be considered as a last resort and only if it were proven to be vital for gas network safety and performance.

2.2.3. "Integrated model", with TSOs providing electricity-generating stations with the intraday flexibility they need

In this model, it is for the TSOs to provide electricity-generating stations with the intraday flexibility they need, which is what GRTgaz has done so far for the DK6 CCGT.

Players on the competitive market are very much in favour of this model, which offers the great advantage of following on smoothly from existing TSO operating methods. It allows the TSOs, which are the only players with a comprehensive, real-time view of the gas system, to optimise existing and future resources from the flexibility viewpoint. As intraday flexibility does not affect the daily amounts added or withdrawn by shippers, all the available intraday flexibility may be delivered to the TSOs, after adapting and extending operational agreements with other gas infrastructure operators if necessary.

CRE has taken note of the risks or drawbacks inherent in this model and highlighted by several gas infrastructure operators in their responses to the public consultation:

- the introduction of a "single purchaser", acting as a middleman between flexibility suppliers and users is not, theoretically, the most cost-effective system,

[2] Electrical power

- there is a risk of cross-subsidies if the TSOs do not pass on any costs pertaining to the supply of intraday flexibility to the users generating them,

- in the event of shortages, the problem of TSO allocation of intraday flexibility capacities will be raised, whereas this problem could be solved by adopting a flexibility system based on market price, as suggested by GRTgaz,

- there is a risk of not developing long-term signals that indicate a possible need for investments aimed at developing new intraday flexibility resources.

CRE considers that these risks are not likely to materialise in the near future and therefore do not justify changing the model. For this reason, it approves the "integrated model" at present. After considering the results of the study described in Section 2.1 of this deliberation, it will be for the Gas Consultation to propose to CRE any new transportation and balancing rules applicable to electricity-generating stations considered necessary.

If TSOs have to bear any costs not covered by existing gas transmission network access tariffs, CRE will propose new tariffs in accordance with Article 7 of Law No. 2003-8. Furthermore, TSOs should inform CRE immediately of any difficulties encountered in defining the conditions applicable to the provision of intraday flexibility by other gas infrastructure operators.

Regular feedback reporting must be set up to ensure that the risks and drawbacks mentioned above do not come to outweigh the advantages offered by the "integrated model".

Lastly, CRE observes that most players are not in favour of the TSO offer being optional if it is to involve payment. There are two main reasons for this: a) the coexistence of two models is complicated and b) setting up competition between two marketing methods for the same product could be detrimental to system optimisation.

These drawbacks should be weighed against the fact that the market players' freedom of choice would be restricted if the TSO offer were to be made mandatory.

2.3. Differentiated conditions of access to natural gas transmission networks for electricity-generating stations

The summary results of the public consultation show that:

- most players are in favour of defining the connection and operating constraints of electricity-generating stations *ex ante* according to geographical location. Some recommend, in particular, that a "queuing system" like that implemented by RTE be set up. In addition, many players approve of the principle of introducing a tariff incentive to encourage electricity-generating plants to set up close to available sources of intraday flexibility,

- most players are against introducing differentiated processing conditions for different electricity-generating stations based on project progress, except where such differences have been clearly explained well ahead of the investment decision,

- several market players stress that, whatever the case, it would be unacceptable to call into question the appropriateness of any investment decisions made concerning the construction of electricity-generating plants after the event, by introducing operating constraints or extra costs.

CRE considers that it would be a good idea to define different conditions of access to natural gas transmission networks for planned electricity-generating stations, according to their geographical location. It does not, however, approve of such differences being based on how much progress projects for future stations have made.

To this end, GRTgaz and TIGF should identify areas conducive to the provision of intraday flexibility for future electricity-generating stations connected to their networks.

CRE shares with most market players an attachment to the principle of meeting the conditions on which investment decisions are based and will take this point into account in its future decisions. Nevertheless, as costs are shared out among transport network users on an equitable basis, CRE cannot guarantee that electricity generators will not have to bear any proven transportation or balancing costs not provided for at the time the connection contracts were signed.

Lastly, transparent connection procedures must be defined to give electricity generators relevant economic signals from the very beginning of their power station projects and to ensure that there is no going back on investment decisions. Connection procedures must clearly specify the operating conditions applicable to planned electricity-generating stations, based on local constraints.

2.4. Obligation for electricity-generating stations to declare their hourly gas consumption programme to TSOs a day ahead

CRE adopts the principle, approved by all players participating in the public consultation, of the need for hourly gas consumption programmes to be declared a day ahead. This obligation would only apply to electricity-generating stations which are already obliged to make a similar declaration to RTE.

The Gas Consultation should submit to CRE proposals as to how this declaration should be made, addressing all the issues raised in the replies to the public consultation and, in particular, the following points:

- time of day-ahead declaration,
- redeclaration procedure if the programme is changed following the initial declaration,
- possibility of a prior notice period for redeclarations,
- responsibility for declaration – producer (site) or shipper,
- possibility of a financial incentive to encourage compliance with the hourly gas consumption programme.

CRE wishes for these procedures to be defined with a view to ensuring the best possible coordination with RTE declaration and redeclaration rules already defined for the electricity sector.

3. Decision

1. CRE rejects the GRTgaz proposal to set up a compulsory hourly balancing system for electricity-generating stations, or even for consumers with significant fluctuations in demand, before the summer 2009.
2. It confirms that daily balancing will be maintained on French gas transmission networks. That being the case, it is for the TSOs to optimise available intraday flexibility resources at all gas infrastructures to allow electricity-generating station programmes declared a day ahead to be met, except in case of force majeure. CRE requests that the TSOs inform it immediately of any difficulties encountered, in particular in defining the conditions applicable to the provision of intraday flexibility by other gas infrastructure operators.
3. It asks GRTgaz and TIGF to conduct a general study in coordination with other gas infrastructure operators, focusing on the ability of French gas infrastructures to meet the demand from planned electricity-generating stations. The specification for this study must be validated by the Gas Consultation group responsible for this matter. The results of the study shall be submitted to CRE and to Gas Consultation members in September 2009 at the latest. These results may be audited by CRE, if necessary.
4. CRE requests that the Gas Consultation should submit by the end of 2009 any new transportation and balancing rules applicable to electricity-generating stations, favouring the "integrated model".

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5. It confirms the obligation for electricity-generating stations to declare their hourly gas consumption programme to TSOs a day ahead and asks the Gas Consultation to submit in July 2009 proposals as to how this declaration and any redeclarations should be handled.

6. It asks GRTgaz and TIGF to submit to the Gas Consultation a proposed procedure for connecting electricity-generating stations. The proposal should be submitted before September 2009 and identify, in particular, suitable areas for construction.

In conclusion, CRE adopts the following schedule for the working group responsible for this matter within the framework of the Gas Consultation:

- **July 2009**:
  - proposal submitted to CRE on the procedure for declaring and re-declaring to TSOs the hourly gas consumption programmes of electricity-generating stations a day ahead.

- **September 2009:**
  - GRTgaz and TIGF present:
    - the general study of the ability of gas infrastructures to provide the flexibility that electricity-generating stations require to operate,
    - the procedure for connecting electricity-generating stations, identifying in particular areas suitable for construction.

- **End of 2009:**
  - if necessary, a proposal will be made to CRE concerning transportation and balancing rules applicable to electricity-generating stations, favouring the "integrated model".

Signed in Paris, 30 April 2009

For the Commission de Régulation de l'Energie,

The Chairman

Philippe de Ladoucette

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