Deliberation by the French Energy Regulatory Commission of 9 December 2015 approving the new D-2 coordinated capacity calculation methodology for the north-Italian borders

Present: Philippe de LADOUCETTE, President, Catherine EDWIGE, Hélène GASSIN, Yann PADOVA and Jean-Pierre SOTURA, commissioners.

In accordance with the provisions of Article 15 of Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and of Article 30 of the standard specifications for the concession of the public electricity transmission network approved by Decree 2006-1731 of 23 December 2006, the French Energy Regulatory Commission (CRE) approves the rules for calculating total transfer capacity and reliability margins.

Within this framework, the French Transmission System Operator Réseau de transport d'Electricité (RTE) has submitted for approval to the CRE, in its letter dated 29 October 2015, a D-2 coordinated capacity calculation methodology, to be applied to all of the north-Italian borders and more specifically to the France-Italy interconnector.

The new D-2 coordinated capacity calculation methodology, prepared by the transmission system operators, was the subject of a public consultation by RTE from 6 to 19 October 2015.

1. Context

1.1. Importance of capacity calculation

For a given level of interconnection capacities, it is essential that the most efficient use is made of any interconnection. This therefore involves:

i. guaranteeing proper use by participants of the capacities made available to them. From this point of view, CRE commends the implementation of day-ahead market coupling with Italy since February 2015, which ensures that day-ahead flows always go from the least expensive price zone to the most expensive price zone;
ii. providing the market with the highest possible capacity levels taking into account system constraints and system security rules. That is the role of capacity calculation.

An efficient capacity calculation therefore maximises capacity exchanges for a given level of infrastructure.

1.2. Provisions of the CACM regulation concerning capacity calculation

Regulation (EU) 2015/1222 of the Commission of 24 July 2015 establishing a guideline on capacity allocation and congestion management (hereinafter CACM regulation), entered into force on 14 August 2015. This network code, which defines the rules for the calculation and use of interconnection capacities in the day-ahead and intraday timeframes, provides for:

- stronger coordination among system operators for capacity calculation;
- harmonisation of capacity calculation methodologies, with flow-based calculation as the target model.

Moreover, system operators may request the competent regulatory authorities to apply a “coordinated NTC” approach (NTC for Net Transfer Capacity - an approach aimed at combining data and pre-defining the split of the overall transmission capacity among the individual Italian borders), if they can show that the flow-based method is less efficient.

Currently at the French borders, only the Central Western Europe (CWE) region, which concerns the borders between Germany, Belgium, France, Luxembourg and the Netherlands, has set up a flow-based capacity calculation methodology, since May 2015.

With regard to the north-Italian borders, Article 20 of the CACM regulation provides for the implementation of the flow-based methodology. It however specifies that the transmission system operators (hereinafter TSOs) of this region can postpone their proposal for implementing this methodology until six months after Switzerland joins day-ahead coupling.

1.3. Situation at the north-Italian borders

The north-Italian borders are characterised by the preponderance of flows going towards Italy, which is structurally dependent on its neighbours for its electricity supply. In 2014 for example, with regard to the France-Italy interconnection, France exported 98 % of the time.

At the north-Italian borders, annual capacity is currently calculated based on a coordinated process involving all of the TSOs concerned. The value resulting from the annual calculation is then used for day-ahead allocation, adjusted as the case may be to take into account scheduled maintenances.

Within the framework of its deliberation of 24 June 2010 approving the capacity calculation methodology applied by RTE at the French interconnections, CRE had requested RTE to specify the methodology used at the north-Italian borders.

In 2012, a common project to implement a D-2 coordinated capacity calculation methodology was launched by the TSOs concerned as well as by the two coordination centres, TSCNET Services and Coreso, which are in charge of centralised capacity calculation at these borders.

2. RTE’s proposal

The new methodology proposed by RTE shall be used first to define capacities for flows towards Italy. For flows from Italy, the new methodology will be applied subsequently.

The new methodology proposed by RTE, based on a calculation carried out two days before real time, enables the use of the most recent data available on the grid conditions and the coordination of data and remedial actions by the TSOs at regional level.

It includes four major phases:

i. total transfer capacity (TTC) calculation at the north-Italian borders;
ii. deduction of a reliability margin of 500 MW which is used to obtain the total net transfer capacity (NTC);
iii. calculation of an NTC for each border through the application of a distribution algorithm;
iv. calculation of the capacity allocated to the day-ahead market for each border (available transmission capacity, ATC) by deducting from the NTC, the capacity already allocated to long-term timeframes.

For the calculation of the TTC during the first phase, a day is divided into two periods. For each period, a single timestamp is used to represent the entire period:

- peak period from 7:00 to 23:00 – timestamp: 10:30;
  off-peak period from 00:00 to 7:00 and from 23:00 to 00:00 - timestamp: 3:30.

RTE proposed to CRE to apply this new methodology as from mid-December 2015. However, following a request by the Swiss system operator, RTE stated that implementation had to be postponed to early 2016.

CRE requests RTE to inform market participants as quickly as possible of the effective date of implementation of the new methodology.

Moreover, during a transitional period (the duration of which has not yet been determined, but which may last about two months according to RTE), known as a fall-back period, it will remain technically possible, in the event of any major difficulties encountered, to go back to the previous methodology.

In addition, the system operators are working on (i) a development of the methodology enabling TTC calculation based on 24 timestamps instead of two currently, and (ii) the implementation of this same methodology for flows from Italy.

3. CRE's analysis

CRE welcomes RTE's proposal concerning the implementation of a new D-2 coordinated capacity calculation methodology in the "north-Italian borders" region, meeting the requirements of the CACM regulation and enabling optimisation of capacity allocated at the France - Italy interconnection.

It considers that this proposal by RTE is a significant improvement compared to the current methodology. It calculates capacity allocated to the market taking into account the most recent information available on the grid conditions. The setting up of a centralised calculation is based on the pooling of the TSOs' hypotheses regarding generation, consumption and the grid conditions, used to jointly deduce the maximum allowable exchanges. This coordination should enable better management of uncertainties and make it possible to reduce the reliability margins taken into account to deal with such uncertainties. Capacity use will therefore be improved, while ensuring greater system security.

Since August 2015, the TSOs concerned have carried out tests to compare the results obtained with both methodologies, and to give market participants the chance to become sensitive with this new method.

The results of these tests show, for the period from 1 August to 30 November 2015, that the D-2 calculated capacities are 70 % of the time higher or equal to the capacity allocated with the current methodology. According to RTE, the 30 % of the time in which the method produces results lower than the former method corresponds to a better adjustment of the NTC to the actual grid conditions, and in particular a better consideration of consignments or incidents. This more accurate estimate of actual system capacities, though it sometimes leads to a lower capacity level, must also serve to reduce the number or extent of remedial actions, which are costly, and which are currently necessary to ensure system security.

However, CRE considers – as it had already highlighted within the framework of its deliberations of 24 June 2010 and 20 February 2014 – that the efforts made by RTE to improve the transparency of the hypotheses taken into account and of the detailed capacity calculation methodology should be continued, or even strengthened. CRE notes that there is a lack of elements serving to explain why the reliability margin is set at 500 MW for all of the north-Italian borders. CRE wishes for the margins taken to handle uncertainties inherent to capacity calculation to be more clearly justified.

Lastly, CRE is in favour of the development of improvements already envisaged by the TSOs, which concern the calculation of the TTC using 24 timestamps and the application of this methodology to flows from Italy.

4. CRE's decisions

Approval of the methodology proposed by RTE

CRE approves the new D-2 coordinated capacity calculation methodology at the north-Italian borders submitted by RTE in a letter received on 29 October 2015.

CRE's requests

CRE requests RTE to inform market participants as quickly as possible of the effective date of implementation of the new methodology at the north-Italian borders.

CRE requests RTE to submit to CRE, before the end of 2016, feedback on the implementation of this new methodology, in particular concerning (i) the development of capacities actually allocated and the costs avoided by the reduction of remedial actions that are currently necessary, (ii) the appropriateness of the reliability margin level, (iii) any development in security margins related to improved sharing of information by the TSOs on their respective grid conditions.

Paris, 9 December 2015

For the Energy Regulatory Commission,
The President,

Philippe de LADOUCETTE